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Final Report on the Federal/State/Local Nonpoint Source Task Force and Recommended National Nonpoint Source Policy Appendix B. Agency Strategies

Synectics Group, Inc., Washington, DC

Prepared for

Environmental Protection Agency, Washington, DC

Jan 85

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This Appendix presents the full text of agency implementation strategies developed by each Federal and some State and local agencies participating on the Federal/State/Local Nonpoint Source Task Force. The U.S. Evironmental Protection Agency (EPA) convened a Federal/State/Local Nonpoint Source Task Force in March 1984 in recognition of the many agencies involved in managing nonpoint source (NPS) pollution and the need for coordination among these agencies. The Task Force developed a recommended National Nonpoint Source Policy and implementation strategies to carry out the goals of the Policy. This Appendix contains copies of these implementation strategies which outline agency-specific activities to be undertaken in implementing the National Nonpoint Source Policy. The Appendix also contains copies of letters of support for the recommended National Nonpoint Source Policy from agencies and organizations participating on the Task Force. The document referred to in the supplementary note includes a copy of the recommended National Nonpoint Source Policy and a summary of each of the agency implementation strategies contained in Appendix B.

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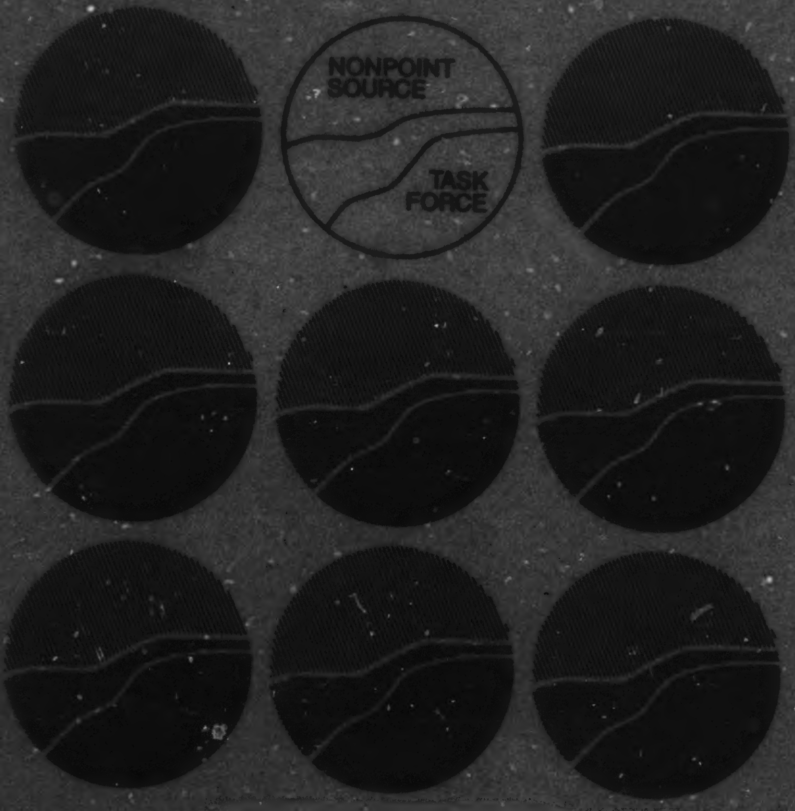
EPA

FINAL REPORT ON THE

Federal/State/Local Nonpoint Source Task Force and Recommended National Nonpoint Source Policy

APPENDIX B: AGENCY STRATEGIES

Prepared for the
Nonpoint Source Task Force
by the
U.S. Environmental Protection Agency
Office of Water



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EPA

FINAL REPORT ON THE

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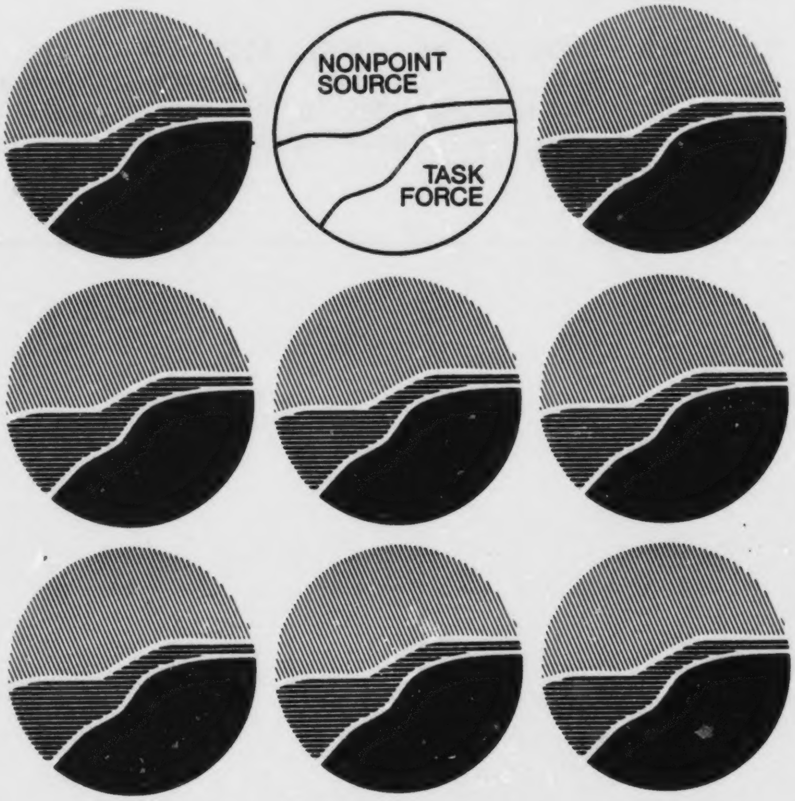

January 1985

ACKNOWLEDGMENTS

The Federal/State/Local Nonpoint Source Task Force was chaired by Jack E. Ravan, Assistant Administrator for Water at EPA. EPA expresses its appreciation to the agencies and organizations that were willing to commit senior managers and staff to this effort. The work of the Task Force could not have been accomplished without the active and continued participation of the members of the Task Force and their staff. The Task Force members and their staff are listed in Appendix A.

The Synectics Group, Inc. (TSG), 1130 17th Street, N.W., Washington, D.C., assisted EPA in coordinating the Task Force, arranging meetings, developing working materials for the Task Force, and preparing this report under EPA Contract #68-01-6629.

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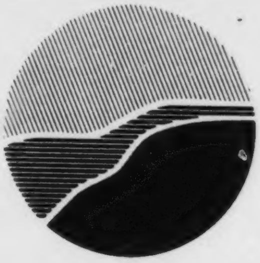
INTRODUCTION

This Appendix presents the full text of agency implementation strategies developed by each federal and some state and local agencies participating on the Federal/State/Local Nonpoint Source Task Force. The strategies outline agency-specific activities to be undertaken in implementing the National Nonpoint Source Policy developed by the Task Force and presented in Chapter 3 of the main document. The strategies were presented to the Task Force, evaluated by Task Force participants in small workgroup sessions, and revised to incorporate the comments of Task Force members, where appropriate. Summaries of the strategies are presented in Chapter 4 of the main document.

Letters of support for the National NPS Policy are presented with each agency's strategy. Additional letters of support from other organizations are provided in the last section of this Appendix.

U.S. Environmental Protection Agency



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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

November 5, 1984

OFFICE OF
POLICY, PLANNING AND EVALUATION

Mr. Jack E. Ravan
Chairman
Federal-State-Local NPS Task Force
Office of Water (WH-556)
U.S. Environmental Protection Agency
Washington, D. C. 20460

Dear Mr. Ravan:

Over the past six months, I have been a Task Force member to help develop approaches to managing nonpoint sources that would strengthen and improve our mutual efforts to address these problems at all levels. In addition, my agency has developed a strategy outlining ongoing and future nonpoint source management activities.

I believe the National Nonpoint Source Policy developed by our Task Force will help all of us better coordinate our approaches and programs. I join with you in recommending that this policy statement be presented by the Task Force to Mr. Ruckelshaus in December.

Sincerely yours,

Milton Russell
Milton Russell
Assistant Administrator

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OCT 24 1984

OFFICE OF
EXTERNAL AFFAIRS

RECEIVED
10-26-84

MEMORANDUM

SUBJECT: Nonpoint Source (NPS) Policy Statement

FROM: Josephine S. Cooper
Assistant Administrator
for External Affairs

Jo Cooper

TO: Jack E. Ravan
Assistant Administrator
for Water

Over the past six months my Office has participated in the NPS Task Force. I wish to commend you on reaching a consensus from such a diverse group on a Policy statement addressing this difficult pollution problem. To reach this consensus, the Policy statement is by necessity very broad. I endorse the framework which the Policy establishes and join in your recommendation that the Policy be presented to the Administrator. I do believe, however, that it is essential that the point be made that the success of the Policy is dependent on the commitments which EPA and other agencies make to their implementation strategies. EPA must take the lead in this implementation effort.

Within OEA we have identified several activities which can be undertaken to facilitate the implementation of the Strategy. The success of these activities are dependent, however, on the availability of OW staff and OEA staff at both Headquarters and in the regions.

Please let me know if I may be of further assistance.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
6TH AND WALNUT STREETS
PHILADELPHIA, PENNSYLVANIA 19106

11-21-84
HH

NOV 16 1984

Mr. Jack E. Ravan
Chairman
Federal-State-Local NPS Task Force
Office of Water (WH-556)
U.S. Environmental Protection Agency
Washington, D.C. 20460

Dear Mr. Ravan:

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I believe the National Nonpoint Source Policy developed by our Task Force will help all of us better coordinate our approaches and programs. I join with you in recommending that this policy statement be presented by the Task Force to Mr. Ruckelshaus in December.

Sincerely,

Thomas P. Eichler
Regional Administrator

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION V
230 SOUTH DEARBORN ST.
CHICAGO, ILLINOIS 60604

REPLY TO ATTENTION OF
WQS-TUB-8

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NOV 6 1984

Mr. Jack E. Ravan
Assistant Administrator
for Water
U.S. Environmental Protection
Agency
401 M Street, S.W.
Washington, D. C. 20460

Dear Mr. Ravan:

Over the past six months, I have been a Task Force member to help develop approaches to managing nonpoint sources that would strengthen and improve our mutual efforts to address these problems at all levels. I believe that the final recommendations that emerged from the Hedgesville, West Virginia workshop should be presented to and discussed with Mr. William Ruckelshaus in December.

I would be pleased to assist you in preparing for the briefing. Our comments on the national strategy will shortly be forwarded to Carl Myers under separate cover.

Sincerely yours,

Valdas V. Adamkus

Valdas V. Adamkus
Regional Administrator

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VIII
1860 LINCOLN STREET
DENVER, COLORADO 80295

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OCT 26 1984

Ref: 8A

Mr. Jack E. Ravan
Chairman
Federal-State-Local NPS Task Force
Office of Water (WH-556)
U.S. Environmental Protection Agency
Washington, D.C. 20460

Dear Jack:

Over the past six months, I have been a Task Force member to help develop approaches to managing nonpoint sources that would strengthen and improve our mutual efforts to address these problems at all levels. In addition, my agency has developed a strategy outlining ongoing and future nonpoint source management activities.

I believe the National Nonpoint Source Policy developed by our Task Force will help all of us better coordinate our approaches and programs. I join with you in recommending that this policy statement be presented by the Task Force to Administrator Ruckelshaus in December.

Sincerely yours,

John G. Welles
Regional Administrator

FINAL U.S. ENVIRONMENTAL PROTECTION AGENCY 1/30/85

NONPOINT SOURCE STRATEGY *

PREAMBLE

A Federal/State/local Nonpoint Source (NPS) Task Force was created by the U.S. Environmental Protection Agency (EPA) in March 1984 in recognition that many diverse agencies have a role in NPS management. The Task Force was charged with developing recommendations to the EPA Administrator on a National NPS policy and implementation strategies to assure broader implementation of needed NPS controls. The Task Force presented a recommended National Nonpoint Source Policy to EPA's Administrator in December 1984. In addition, agencies participating on the Task Force developed individual agency strategies for implementing the National NPS Policy.

The objective of the National NPS Policy is to support and accelerate the development and implementation of NPS management programs. EPA fully supports the objective of this National NPS Policy. Managing nonpoint sources of water pollution is a high priority for EPA; NPS pollution is clearly identified as a priority issue in EPA'S Agency Operating Guidance. EPA is committed to work with other Federal, State, local, and interstate agencies and the private sector to incorporate NPS control measures into their programs, where appropriate. EPA intends to intensify its NPS activities through better utilization of existing resources.

The National NPS Policy outlines the responsibilities for the different levels of government agencies and the private sector in managing NPS programs. The Policy notes that EPA, as directed by the Clean Water Act, will serve as the lead agency in coordinating interagency and State actions for managing NPS programs. The Policy also calls for EPA to promote adoption of NPS management programs directed at achieving water quality goals: assist with program development; promote provision of incentives where needed; provide oversight of its water quality programs to ensure that they adequately address NPS problems; and coordinate other agencies' research, education, demonstration projects, training, information transfer, technical assistance, and data collection and analysis activities related to managing NPS pollution. The Policy notes that the Clean Water Act requries EPA to oversee the implementation of water quality programs and to report to Congress on their effectiveness. Although the Policy acknowledges that all agencies are individually responsible for the periodic evaluation of their programs, it says EPA should include these evaluations in its assessment of NPS management efforts in determining if national water quality goals are being adequately addressed.

The National NPS Policy calls for Federal, State, local, areawide, and interstate agencies to develop and implement NPS strategies. Thus, in keeping with the spirit and intent of the Policy, the attached EPA NPS Strategy outlines specific tasks EPA will undertake to accelerate NPS management.

---

* This final EPA Nonpoint Source Strategy will be continually up-dated as necessary. Suggested revisions should be provided to EPA's Nonpoint Sources Branch in Washington, D.C.

EPA's principal implementation responsibilities under the Clean Water Act related to this Strategy are outlined below:

Problem Assessment - Although State, areawide, and local agencies have the lead role in problem assessment, EPA will work with these agencies to identify water quality problems, pollution sources, and control needs. EPA will assist in monitoring, data collection and maintenance, and research and development. Agencies should build upon the work done under Section 208 and 303 of the Clean Water Act, the Rural Clean Water Program, and other programs, and utilize the Continuing Planning Process and the 305 (b) reporting mechanism.

NPS Program Development - EPA expects States in cooperation with appropriate levels of government and the private sector to take the lead in developing NPS management programs for priority waters (ground or surface waters) by FY 86. EPA will provide guidance and assistance to States and other agencies in developing NPS management programs. Emphasis will be placed on assisting with the setting of priorities for remedial and preventative control efforts in specific priority waters and in targeting NPS management efforts. EPA's NPS Strategy includes a model list of activities to be undertaken in the development of State NPS management programs.

Funding - A variety of funding sources are available under the Clean Water Act for managing NPS pollution. Available Section 106, 205, and 314 funds can be used for NPS activities. States should use Section 205 (j) and 106 funds for developing NPS management programs. Section 106 funds can also be used for managing NPS programs; however, 106 funds are not to be used for direct financial assistance to individuals for implementing NPS controls, except for demonstration projects. Section 106 funds are also available to develop ground-water protection programs, including programs to address contamination of ground-water from nonpoint sources. Available Section 314 funds may be used for lakes impacted by nonpoint sources. EPA considers development and submission of NPS management programs a priority for water quality management plan updates; such updates are eligible for 205 (j) funding.

Technical Assistance and Information Transfer - EPA will assist States and other agencies to identify priority waters affected by nonpoint sources: develop cost-effective programs for achieving the desired environmental results: promote innovation: and will facilitate technology transfer and information sharing among states and localities.

Coordination and Cooperation - Based on Section 304 (k) of the Clean Water Act, EPA has a lead Federal agency role in facilitating and coordinating consistency in NPS management. To accomplish this, EPA will develop memoranda of understanding (MOUs) as needed with other Federal agencies. For NPS management programs developed by States in FY 85 and beyond, these MOUs help ensure the maximum utilization of existing Federal programs, policies, and legislative authority in achieving the implementation of State NPS management programs. States should support and amplify Federal-level MOUs with State-level MOUs between individual State agencies, appropriate Federal counterparts, and local/areawide agencies. EPA will encourage and support, to the maximum extent feasible, interstate coordination of NPS programs, including the

Chesapeake Bay as a prototype of interstate cooperation and the Great Lakes as a prototype of international cooperation. EPA will coordinate NPS activities in research, education, demonstration projects, training, information transfer, technical assistance, and data collection and analysis with other agencies.

Federal Compliance - Section 313 of the Clean Water Act and Executive Order 12088 establish policies and procedures related to compliance of Federal facilities with applicable State, interstate, or local water pollution control requirements including any requirements for controlling NPS pollution. Compliance is the primary responsibility of the appropriate Federal facility manager or agency. EPA will participate in this process as required by the Clean Water Act and the Executive Order.

Oversight and Accountability - EPA is responsibile for reviewing NPS programs to ensure that water quality goals, standards, and designated uses are being met. EPA will review the current status of State NPS problems and NPS management programs as part of the Office of Water Accountability System Review. EPA's Operating Guidance clearly identifies NPS management as an Agency priority and delineates realistic performance expectations.

EPA will explore other programs and/or policies which can be developed under current authorities to improve the Agency's ability to assure control of NPS pollution and more cost-effective attainment of water quality goals and standards. EPA commits to working with States and other Federal agencies to address institutional barriers to NPS management. To this end, the Agency will identify institutional constraints to effective NPS management and implementation, and in cooperation with the affected entities, take the necessary steps to remove them.

The attached EPA NPS Strategy is based on the principles and approaches in the recommended National NPS Policy developed by the NPS Task Force. Also, EPA's NPS Strategy is based on existing authority under the Clean Water Act (general implementation responsibilities are listed above) and is intended to build upon the work already done by EPA and other Federal, interstate, State, areawide, and local agencies. This Strategy describes how the implementation responsibilities listed above will be carried out by EPA, including identifying specific tasks and a schedule.

EPA NONPOINT SOURCE STRATEGY

PROBLEM ASSESSMENT

State, local, areawide, and interstate agencies have the lead role in NPS problem assessment. EPA will work in conjunction with all agencies to help identify water quality problems, pollution sources, and management needs, building upon the work done under Section 208 and in other programs. EPA involvement will include work and assistance in problem identification, monitoring and data maintenance, and research and development.

Problem Identification

EPA Action	Target Date
o Support ASIWPCA and the States in their efforts to identify and assess NPS problems.	Ongoing
o Continue to use the Environmental Management Reports (EMR) process as a management vehicle to report on NPS assessments and remedial actions.	Biennial
o Ask States to report on the nature and extent of NPS pollution, identify the waters impacted and/or in need of protection, and define State actions to correct the problems in 305 (b) reports. Assist States to include waters impacted by NPS pollution on their lists of priority waters.	Beginning with the next 305(b) reports due 4/86
o Provide guidance to States on how to report NPS problems in 305(b) reports to ensure comparability of data.	Ongoing

Monitoring and Data Maintenance

EPA Action	Target Date
o Encourage States to include monitoring/assessments of NPS pollution problems in both surface and ground-waters as part of their annual work plans.	Ongoing
o Include NPS monitoring needs as part of EPA Office of Water's efforts in their basic water monitoring program.	Ongoing

EPA Action	Target Date
o Document and update existing EPA databases: develop mechanisms to retrieve data related to nonpoint sources from other agencies when needed.	Ongoing
- Document National Urban Runoff Program (NURP) data and make available to all users (grant to Illinois Water Survey).	Ongoing - Complete 1/86
o Conduct annual NPS data coordination meeting.	FY'85
o Conduct monitoring/survey of pesticides in drinking water (being conducted by Office of Pesticide Programs and Office of Drinking Water).	FY'84-FY'88
o Work with other Federal agencies, State agencies, universities, and others concerning monitoring and research and development activities related to NPS pollution.	Ongoing

Research, Demonstration, and Development

EPA Action	
o Increase research and development efforts to assist in problem identification, assessment, and data collection, and to develop tools for implementing NPS management programs. EPA will need to conduct some of this research (singly or in cooperation with other Federal agencies, State agencies, universities or others), encourage other agencies to conduct research, and coordinate research activities.	FY'85-FY'87
o Support the development, evaluation, and implementation of new and innovative approaches to NPS management.	Ongoing

PROGRAM IMPLEMENTATION

EPA will provide guidance and assistance to government agencies and the private sector in planning and implementing NPS management programs. Assistance will include setting priorities for remedial and preventive management efforts. EPA's technical assistance and education efforts will support and utilize existing delivery systems wherever possible. Priority for available funding will go to States that have identified NPS pollution as a problem and are working actively to develop and implement management programs through their ongoing water quality management program.

Program Planning. Development. and Implementation

EPA Action	Target Date
o Provide guidance and technical assistance on development of NPS strategies/programs. program management, and priority setting based in part on results of the ASIWPCA NPS study (see Exhibit A).	FY'86
o Support the continued involvement of water quality agencies in NPS management efforts through available funding for Clean Water Act Section 106, 205, and 314 grants.	Ongoing
o Provide guidance to States on classifying ground-waters according to use and vulnerability.	Ongoing
o Coordinate EPA activities with those of other Federal and State agencies to implement NPS programs in State identified priority waters within limitations of existing and future resources.	Ongoing
o Use available funds in the Clean Lakes Program (Section 314) to support NPS management.	Ongoing
o Use EPA's Clean Water Act Section 404 (Dredge and Fill Program) to protect wetlands which function to uptake or immobilize NPS pollutants.	Ongoing
o Use the continuing Chesapeake Bay and Great Lakes programs as models for NPS program development in other areas wherever appropriate.	Ongoing
o Negotiate with USDA on the priority of NPS in the current Resource Conservation Act process.	Fall '85
o Work with USDA to achieve better State and EPA water quality representation in various ongoing USDA programs.	Fall '85
o Continue to use the existing NPDES permit process and related existing effluent guidelines when appropriate for BMPs on industrial sites: evaluate adequacy of BMP measures in place in previously promulgated effluent guidelines.	FY'85-FY'86
o Continue to identify and address NPS loads and effects as appropriate in advanced waste treatment reviews for POTW's.	Ongoing

EPA Action	Target Date
o Encourage and support new innovations for managing NPS pollution and encourage implementation where feasible and cost-effective.	Ongoing
o Remove or ameliorate institutional barriers to NPS management.	Ongoing
o Work with other agencies and trade associations in developing private managerial potentials of owners, consultants, and other managers regarding NPS management on small landholdings.	Ongoing

Targeting

EPA Action	Target Date
o Respond to Federal, State, local, and areawide agency requests for assistance in targeting their NPS management programs in priority waters.	Ongoing
o Cooperatively develop and issue guidance for targeting NPS management of surface and ground-waters at two levels: - statewide targeting to identify priority waters needing NPS management - development of watershed or subbasin implementation plans which identify priority management areas needing NPS BMPs and priority practice needs	FY'85
o Complete development and implementation of watershed screening models for use by local agencies.	FY'85

Technical Assistance/Education

EPA Action	Target Date
o Provide technical assistance on use of water quality standards and related processes to address nonpoint sources where States have identified NPS problems.	Ongoing
o Provide technical assistance for selected NPS priority waters (via level of effort contract).	FY'85

EPA Action	Target Date
o Support exchange of water quality and other technical specialists between EPA and Federal and State agencies.	Ongoing
o Develop and disseminate public information materials on NPS problems and existing State/local voluntary and regulatory programs via informational meetings and conferences; develop and conduct workshops for local decision-makers.	Ongoing
o Develop and implement a capability for NPS information transfer about BMP effectiveness, program effectiveness, etc.	FY'85 - develop FY'86 - implement
o Conduct a NPS national conference (Kansas City)	5/85
o Work with USDA, NACD, States, universities, and others to develop information/education programs on effects of land use practices on water quality for delivery to county agents and others who work directly with landowners/land users.	FY'85
o Provide assistance to Federal agencies to meet water quality goals, including reviewing documents, assisting with projects, etc.	Ongoing

INCENTIVES AND ENFORCEMENT

Currently, both voluntary and regulatory programs are being used to manage NPS impacts. EPA believes that voluntary NPS management programs are valuable and that incentives are sometimes necessary to increase the scope of implementation and improve the equity of such programs. However, where nonpoint source-related water quality goals are not being met after an adequate period of voluntary program implementation, regulatory programs may be necessary, and States and localities should consider developing and implementing such programs. Where regulatory programs are used, adequate enforcement mechanisms should be developed to ensure compliance with program requirements.

A variety of incentive and enforcement tools may be used to achieve compliance or implementation of NPS BMPs. It is important to note that EPA currently has few legal authorities under the Clean Water Act to require implementation of NPS BMPs. Section 313 of the Clean Water Act and Executive Order 12088 address Federal facilities compliance with all State, interstate or local water pollution control requirements including the control of NPS pollution. Also, under the current NPDES permit program regulations stormwater discharges located in urbanized areas or at industrial facilities are considered point sources and are required to obtain a permit (49 FR 37997, September 26, 1984). Although these discharges fall within the definition of a point source, EPA believes they are better dealt with by NPS management practices.

Many States and local governments have adopted regulatory programs including enforcement options for some types of nonpoint sources. NPS pollution from construction erosion, mining activities, and pesticide use are the most common types of nonpoint sources for which States/locals have adopted regulatory programs. About one-fourth of the States have regulatory programs for forestry activities; these programs vary widely among States. Agricultural NPS problems are currently primarily addressed with voluntary programs: in some instances, back-up regulatory provisions have either been adopted or considered. Only a few States and/or local governments have adopted stormwater management regulatory programs, primarily directed to control of stormwater runoff from new developments.

Incentives

EPA Action	Target Date
o Make existing Clean Water Act resources available to localities for NPS management activities in priority waters, with emphasis on achieving water quality goals or standards cost-effectively.	Ongoing
o Use Office of Water Operating Guidance to encourage use of available 106, 205, 314, and other funds to assist State and local NPS program development and/or implementation. Evaluate priority given to the use of these funds.	FY'85-'86
o Encourage States to develop incentive programs to share the cost of implementing BMPs i.e., cost sharing, loan programs, tax incentives, etc.	Ongoing
o In conjunction with USDA, review current tax incentives for BMP application and evaluate the feasibility of alternative approaches.	FY'85
o Assess and provide information about the economic benefits to landowners and operators of BMP emplacement.	FY'85
o Evaluate the Clean Water Act to determine what other programs or sections can be employed as incentives to support meeting water quality goals and standards regardless of the pollution source.	FY'85-FY'86

Enforcement

EPA Action	Target Date
o Incorporate into State grant agreements stronger provisions to ensure State enforcement of labeling restrictions under FIFRA.	FY'86

EPA Action	Target Date
o Evaluate the effectiveness of erosion control requirements in the Construction Grant Program i.e., have the Office of Water develop a report on the effectiveness of these requirements.	FY'85
o Evaluate compliance of affected parties with current NPDES stormwater management requirements.	FY'85 - FY'86
o Employ Section 404 permitting requirements for discharges into wetlands important for control of NPS pollutants.	Ongoing
o Explore and define other alternatives which might be legally adaptable and implementable under the current Clean Water Act for managing water quality e.g., use of General Permits.	FY'85-FY'86

COORDINATION

Water quality needs to be integrated into all public and private resource management and environmental protection programs. Based on its responsibility and authority under the Clean Water Act, EPA will assume the lead Federal agency role to facilitate cooperation and consistency in the management of NPS water pollution.

EPA Action	Target Date
o Review, evaluate, and if necessary strengthen memoranda of understanding (MOUs) between EPA and other Federal agencies related to NPS responsibilities.	All completed by 9/85
o Promote a higher level of priority for water quality in government decisions through program reviews, conferences, educational efforts, and legislative changes, where necessary.	Ongoing
o Explore ways to expand membership on single-purpose committees to include State and EPA water quality specialists.	Ongoing
o Utilize inter-personnel assignments (IPAs) to allow Federal, State, and local professionals to be assigned to EPA offices and vice versa.	Ongoing

EPA Action	Target Date
o Participate in the Interagency Committee on Ground-Water (USGS) which includes representatives from Federal agencies having ground-water concerns (e.g., USGS, DOD, DOE, DOI, USDA as well as other outside interest groups), to assure adequate consideration of NPS effects on ground-water.	Coordinate with Office of Ground-water Protection
o Each Federal agency is required by E.O. 12088 to submit to OMB, through the EPA Administrator, an annual plan for the control of environmental pollution at their facilities; review plans and ensure progress is occurring.	Ongoing
o Evaluate, with the assistance of the Office of Policy, Planning and Evaluation and the Office of Federal Activities, mechanisms for Federal agency coordination and tools for facilitating Federal agency compliance with applicable NPS pollution control standards.	FY'85
o Coordinate with other Federal agencies relative to actions affecting priority waters.	Ongoing
o Incorporate NPS management concerns in EPA's review of other agencies' actions under the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act.	Ongoing
o Incorporate NPS concerns in EPA's review of the CORP'S public notices on Section 404 discharges into wetlands.	Ongoing
o Work with other Federal agencies to achieve better interagency coordination and cooperation among regional offices.	Ongoing

RESOURCES

EPA's Office of Water will assume the lead role within the Agency of managing the EPA NPS Strategy. EPA will use existing funding under the Clean Water Act to assist State and local governments in program implementation.

EPA Action	Target Date
o Better utilize available professional staff to manage and carry out EPA's responsibilities identified in this strategy and encourage existing staff to take training courses on all aspects of NPS management.	FY'85-FY'88
o Use a level-of-effort contract to provide technical assistance for regional, State, areawide and local NPS initiatives.	FY'85
o Increase priority of NPS management within limitations of existing and future available funds in Sections 106, 205, and 314.	FY'85-FY'88

PROGRAM EVALUATION AND OVERSIGHT

To meet the goals and objectives of the Clean Water Act, EPA will oversee implementation of State water quality programs through its accountability system and through program review of activities by the Regions. EPA, in cooperation with States, will consider activities of Federal land management agencies as they impact NPS management.

EPA Action	Target Date
o Work with the Office of Water to evaluate the need to suggest statutory changes related to NPS management in the reauthorization of the Clean Water Act.	FY'85
o Include specific items on NPS pollution as part of the Administrator's Tracking System.	FY'85
o As part of EPA's CWA oversight role, assess and evaluate state NPS programs.	Annually
o Review State lists of priority waters to ensure consistency with national guidance.	Ongoing
o Evaluate and integrate the experiences of the State, areawide, and local NPS programs; use results to refine and modify agency strategy and direction.	Ongoing
o Evaluate use by States of Section 106, 205, and 314 funds for NPS management to ensure consistency with national guidance.	FY'85-'86

EXHIBIT A

MODEL FOR DEVELOPING A STATE NPS MANAGEMENT PROGRAM

INTRODUCTION

In developing a State program for NPS management, State-or local-level agencies, as appropriate, should consider undertaking the following activities.

DESIGNATE PRIORITY WATERS

- o Identify those waters within State boundaries that are not supporting designated uses and those currently meeting designated uses but which are likely to be impacted in the future. Then select those waters where action is needed to manage nonpoint sources of pollution. States are encouraged to rank waters and to target their implementation efforts on priority waters, including both surface waters and ground-water.
- o In selecting priority waters for NPS management actions, the following criteria should be used:
  - Nonpoint sources contribute significantly to the impairment of a designated use or prevent the water from meeting a water quality standard, or nonpoint sources will in the future prevent a designated use or achievement of a water quality standard;
  - Nonpoint sources are largely controllable i.e., not background; and
  - NPS BMPs are available and probably cost-effective.
- o Additional priority consideration should be given to areas where NPS Best Management Practices (BMPs) will provide measurable benefits in a relatively short timeframe and to unique or special high quality waters needing additional protective management.

IDENTIFY MAJOR TYPES OF NONPOINT SOURCES AND BEST MANAGEMENT PRACTICES

- o Designate the general categories or subcategories of nonpoint sources of pollutants or, where appropriate, specific nonpoint sources that contribute significant pollutant loadings to the waters identified above.
- o Identify BMPs that would prevent or reduce pollution resulting from each category, subcategory, or particular nonpoint source designated above.

IDENTIFY APPROACHES FOR ENSURING IMPLEMENTATION OF NPS BMPS

- Identify regulatory and non-regulatory methods for achieving implementation of best management practices for each of the categories, subcategories, and particular nonpoint sources designated above. These methods might include technical assistance, financial assistance, education, training, technology transfer, demonstration projects, and regulatory programs. When identifying methods, responsible management agencies should also be identified. States are encouraged to consider the most cost-effective means of achieving water quality goals in the development of NPS management programs.

- States are encouraged to develop watershed-based NPS implementation programs for selected priority waters. For selected individual watershed projects a single design plan should be developed which includes the following elements:

  - Water quality goals established by variable e.g., reduce BOD by 20%, reestablish the native trout fishery;

  - A watershed inventory to characterize categories of pollutant sources, individual sources of NPS loadings (including if possible magnitude of sources), and impact of each source on the receiving water body;

  - Estimated load reductions needed to achieve water quality goal(s);

  - Alternative BMPs available to reduce pollution resulting from each category, subcategory, or particular nonpoint source identified in the watershed;

  - Ranking of individual nonpoint sources or areas within the watershed as to their priority for installation of BMPs;

  - Total BMP needs and estimated costs for the watershed project;

  - A monitoring and evaluation program to evaluate progress against watershed project goals and objectives; and

  - Roles and responsibilities of agencies involved in the watershed project.

- Although some charge that the preparation of a design plan for watershed projects will cause a severe financial burden and expensive time delays in program delivery, the purpose of these plans is to lead to a more cost-effective approach to managing NPS pollution.

DEFINE AGENCY ROLES AND AUTHORITIES

- States should consider designating one State agency (preferably a water quality oriented agency) to be accountable for all aspects of NPS management programs. This one agency should be responsible for coordinating other Federal, State, local, areawide, and interstate agencies involved in the management of NPS pollution.

- Obtain a statement from the State attorney general certifying that State laws provide adequate authority to carry out and enforce the described program, or--if they do not--what additional authorities would be necessary. If additional authorities are needed, a schedule to obtain them should be indicated.

- Identify the Federal financial assistance programs, development projects, and policies that the State has reviewed for their effect on NPS pollution and water quality. The State should indicate whether these programs, projects, or policies are consistent with and further the objectives of the State NPS program. If such is not the case, the State should identify what modifications would improve their applicability to State NPS management needs.

- Develop a written summary of the roles and responsibilities of all involved agencies as well as the mechanisms established to ensure effective coordination.

DESCRIBE PROGRAM PLAN

- Document program objectives, procedures, and expected results, incorporating much of the information discussed above. This information should be included in documents explaining State Continuing Planning Processes.

- Include a schedule containing annual implementation milestones.

EVALUATE RESULTS

- Periodically assess progress against program objectives and include water quality monitoring results and review of BMP implementation and maintenance in program reviews, including in State Section 305 (b) reports.

- Use results of evaluations to improve targeting efforts and other program components.

U.S. Department of Agriculture
Soil Conservation Service

β-21-a

United States
Department of
Agriculture

Soil
Conservation
Service

P.O. Box 2890
Washington, D.C.
20013

DEC 1 2 1984

Mr. Jack E. Ravan
Chairman, Federal-State-Local
  Nonpoint Source Task Force
Office of Water (WH-556)
U.S. Environmental Protection Agency
Washington, D.C. 20460

Dear Mr. Ravan:

Over the past 6 months, I have been a task force member and helped to develop approaches to managing nonpoint sources that would strengthen and improve our mutual efforts to address these problems at all levels. In addition, the Soil Conservation Service has developed the enclosed strategy which outlines ongoing and future nonpoint source (NPS) management activities that could be undertaken to implement a national policy.

I believe the National NPS Policy developed by our task force, when adopted by the participants, will help all of us better coordinate our approaches and programs. I join with you in recommending that this policy statement be presented by the task force to Mr. Ruckelshaus in December.

Sincerely,

Peter Myers

PETER C. MYERS
Chief

Enclosure

SOIL CONSERVATION SERVICE
NONPOINT SOURCE STRATEGY
December 12, 1984

PREAMBLE

The Soil Conservation Service (SCS), U.S. Department of Agriculture, has developed the following strategy related to the programs and authorities it administers to identify specific actions that could be undertaken by SCS to aid in the implementation of the national policy developed by the National Nonpoint Source (NPS) Task Force and recommended to the Administrator of the Environmental Protection Agency on December 12, 1984.

The strategy is based upon:

A. The policy included in Section 1501 of the Agriculture and Food Act of 1981 which states:

> "Congress hereby reaffirms its policy to promote soil and water conservation, improve the quality of the Nation's waters, and preserve and protect natural resources through the use of effective conservation and pollution abatement programs."

B. The President's National Conservation Program for Soil and Water issued pursuant to the requirements of the Soil and Water Conservation Act of 1977 (PL 95-192), which establishes the following long-term objectives:

- development of a program that will lead toward nondegradation of the Nation's soil and water resource;
- increasing on- and off-farm irrigation efficiencies;
- effective utilization of water, including soil moisture, for needed agricultural production;
- reduction of flood damages on agricultural lands and in rural communities;
- improvement of rangeland, and
- a continued response to efforts initiated by state and local governments and the Environmental Protection Agency (EPA) to reduce agricultural pollution from NPS.

C. The SCS 1982 water quality strategy which recognizes water as an inseparable component of the resource base and seeks the integration of water quality concerns into all ongoing SCS programs and activities.

D. The Memoranda of Understanding between the Department of Agriculture and individual conservation districts and Indian tribes and the supplemental memoranda between the SCS and such conservation districts and tribes pursuant to the terms of the Soil Conservation and Domestic Allotment Act of 1935 and other acts. These memoranda govern the administration of broad programs of assistance to farmers, ranchers, and land users, including soil and water conservation, watershed protection, flood prevention, farm forestry, urban and rural area development and encompass, research, education, technical assistance, cost sharing, and credit. This also may include cooperation with and assistance to soil and water conservation districts in conserving and improving soil, water, vegetation, wildlife and related resources and in reducing damage by floods and sedimentation. SCS assistance to conservation districts is allocated in accordance with an annual plan of work developed in consultation with the district which requires that the districts:

(a) adopt a procedure for identification, inventory, and analysis of conservation and resource problems within the districts;

(b) establish a procedure for orderly and progressive development and application of conservation and resource development plans for farms, communities, watershed and other land units;

(c) determine the priority areas of work within the district;

(d) identify the recipient's services provided by the district;

(e) develop a systematic method for group and individual follow-up work essential for carrying out conservation and resource development plans; and

(f) develop an information and education program to keep local citizens informed.

E. The Agricultural Conservation Program (ACP), Emergency Conservation Program (ECP), Water Bank Program (WBP), and the Experimental Rural Clean Water Program (RCWP) administered by the Agricultural Stabilization and Conservation Service (ASCS) with direct technical assistance provided by the SCS.

These programs' objectives were formulated, taking into consideration the following factors:

(1) the need to control erosion and sedimentation from agricultural land and to conserve the water resources on such land;

(2) the need to control pollution from animal waste;

(3) the need to facilitate sound resource management systems through soil and water conservation;

(4) the need to encourage voluntary compliance by agricultural producers with federal and state requirements to solve point and nonpoint sources of pollution;

(5) the priorities reflected in the National Environmental Policy Act of 1969 and other congressional and administrative actions;

(6) the degree to which the measures contribute to the national objective of assuring a continuous supply of food and fiber necessary for the maintenance of a strong and healthy people and economy; and

(7) the type of conservation measures needed to improve water quality in rural America.

F. The authority contained in the Rural Development Act of 1972 (PL 92-419) which provided, "for the benefit of rural communities, technical and other assistance and such proportionate share of the costs of installing measures and facilities for water quality management for the control and abatement of agriculture-related pollution . . . ."

G. The Memorandum of Understanding between EPA and USDA in which USDA agrees "to encourage and direct, as feasible, programs and activities conducted by USDA and its cooperators in the states toward balanced improvement and maintenance of the quality of the Nation's natural resources and its environment while maintaining the capability for sufficient and efficient production of food, fiber, and forest products."

H. Other programs and authorities administered or assisted in a manner consistent with the policies, objectives, and strategies outlined in A-G above. These include:

Rural Abandoned Mine Program
Resource Conservation and Development
Great Plains Conservation Program
Colorado River Salinity Control Program
Watershed and Flood Prevention
River Basin Investigations and Surveys
Conservation Operations
Soil Survey
Snow Survey
Inventory and Monitoring
Assistance to Housing and Urban Development
Assistance to Federal Emergency Management Agency
Assistance to Clean Lakes Program
Assistance to Area Wide Waste Water Management Programs

PROBLEM ASSESSMENT

State and local agencies have the lead role for the identification of nonpoint sources of water pollution. SCS provides direct technical assistance to state soil and water conservation agencies and local soil and water conservation districts and provides technical and personnel support to state agencies and to the U. S. Environmental Protection Agency to assist in this activity.

PROBLEM IDENTIFICATION

SCS Action	Target dates
• Serve on steering committee for EPA's grant to the Association of State and Interstate Water Pollution Control Administrators (ASIWPCA) for state level problem assessment	Thru Fall 1985
• Provide SCS employees on detail to:	
Region V; Great Lakes Program Office	Thru FY 1986
Region III; Chesapeake Bay Program Office	Start FY 1985
Region VII; Kansas City	(Under negotiation)
• Provide SCS employees on details to state agencies to be determined on a case-by-case basis	Continuing
• In consultation with the National Association of Conservation Districts (NACD), investigate the need for changes in supplemental memoranda of understanding with districts to assure adequate NPS assessment	FY 1985
• Formulate an SCS Geographic Information System for use in assessing water quality concerns	FY 1985/86

MONITORING AND DATA MAINTENANCE

• Maintain and update the SCS National Resource Inventory (5-yrs. update 1977-82-87)	Ongoing
• Reassess water quality concerns from agricultural nonpoint sources as part of the 1985 Resource Conservation Act (RCA) activities	Thru Sept 1985
• Recommend improvements to the Conservation Reporting and Evaluation System (CRES) and integrate water quality into the SCS field office relational data base	Ongoing
• Serve on steering committee for EPA's grant to the National Association of Conservation Districts; Chesapeake Bay	Thru Sept 1985
• Serve on the International Joint Commission's (IJC) Water Quality Board, Programs Committee, Nonpoint Source Subcommittee and Lake Erie Phosphorus Task Forces	Ongoing

PROGRAM IMPLEMENTATION

SCS will provide technical assistance to state and local agencies and to private individuals for the implementation of NPS management programs consistent with USDA's National Program for Soil and Water Conservation. Priority for available funding will go to areas with identified and documented water use impairments. Assistance will be through existing programs and delivery systems.

Program Planning, Development, and Implementation

SCS Action	Target Date
• Provide continued technical assistance to EPA Clean Lakes and Area Wide Waste Water Management Programs	Ongoing
• Provide guidance for program development for projects with a water quality objective	Ongoing
• In cooperation with ASCS, promote national and state level program development group meeting to review existing programs for opportunities for implementing the National NPS Policy and to consider the following issues specifically identified by EPA's National NPS Task Force:	FY-85

- + provisions for state and local input on state and local development groups (designated vs. invited membership)
- + the inclusion of nutrient and pesticide management as required noncost shared practices in long-term conservation agreements
- + prioritization of existing resources within target areas for NPS control where documented water use impairments exist

• Support, in cooperation with other agencies, the use of the Resource for the Future (RFF) national water quality model as a method of analyzing, on a national and regional level, off-site effects from agricultural activities	FY 1985

TARGETING

SCS Action	Target Date
• Consider state NPS priorities in the selection process for SCS projects	Ongoing
• Establish criteria for development of critical areas within targeted areas and SCS project activities	FY 1985
• Support SCS/ASCS review of existing targeted areas for possible redistribution of resources, particularly in areas with multiple resource problems where the soil resource base can be protected while improving water quality.	FY 1985

TECHNICAL ASSISTANCE/EDUCATION

SCS Action	Target Date
• Train SCS and ASCS personnel in water quality	Ongoing
• Convene symposium on off-site effects with emphasis on calculation of economic impacts	FY 1985
• Serve on steering committee for NPS clearinghouse development (EPA contract to NACD)	FY 1985
• Cosponsor, with other federal agencies, a National NPS Meeting (Kansas City)	May 1985

• Provide training to state water quality agencies and conservation districts via specific agreements	As requested
• Support technology transfer activities between state and federal agencies	As requested
• Create position for technical specialist on pesticide/groundwater interaction and develop training program	Approved for action FY 1985
• Implement the use of water quality models, such as CREAMS, at the field level for use in conservation planning	FY 1985
• Provide higher priority for NPS research	FY 1985

INCENTIVES AND ENFORCEMENT

SCS is committed to the voluntary compliance by agricultural producers with federal and state requirements to solve point and NPS pollution. It provides technical and financial assistance to project sponsors and participants in support of both regulatory and voluntary state and local efforts.

INCENTIVES

SCS Action	Target Date
• In conjunction with EPA, review current tax status and evaluation proposals for tax incentives for NPS management practices	FY 1985
• Review regulations governing incentives payments for all SCS programs to insure adequate consideration of off-site effects are included	FY 1985
• Explore use of variable cost-share and minimum eligibility requirements where state-of-the-art technology allows defensible use of such concepts	FY 1985
• Review Environmental Review Process to insure adequate conservation of off-site effects	FY 1985

COORDINATION

The diverse nature of nonpoint sources of pollution requires close coordination by all agencies involved in the implementation of NPS control activities. Under the provisions of its broad Memorandum of Understanding with the Environmental Protection Agency, the SCS will enter into specific agreements at the federal, state, and local levels where necessary to insure compliance with state and federal regulations and objectives and to promote cooperative efforts to address threatened or impacted water uses.

SCS Action	Target Date
• Participate on Interagency Committees SCS-U.S. Geological Survey Coordinating Committee Colorado River Basin Salinity Control Program Coordinating Committee Interagency Committee on Groundwater RCWP National Coordinating Committee ASCS Program Development Group Chesapeake Bay Implementation Committee International Joint Commission - Water Quality Board National NPS Task Force	Ongoing
• Provide for exchange of personnel between and among federal, state, and local agencies	Ongoing
• Develop specific agreements for defined implementation efforts on priority water bodies in:	
+Chesapeake Bay Basin	October 1984
+Colorado River Basin	(pending legislative developments)
+Lake Erie/Ontario Basin	(pending development of state programs per Annex 3)

RESOURCES

National resource distribution in support of NPS control activities will be under the direction the Deputy Chief for Programs for the SCS and within each state under the direction of the SCS state conservationist.

SCS Action	Target Date
• Provide increased level of technical staff to Chesapeake Bay Basin	FY 1985
• Consider modifications to Conservation Operations allocation formula to insure consideration of NPS problems identified with agricultural activities	FY 1985

• RCWP National Coordinating Committee review of resource allocation for existing RCWP projects and determine if there is an opportunity for new project starts	Dec. 1984

PROGRAM EVALUATION AND OVERSIGHT

SCS reviews its ongoing programs on 5-year cycles. The results of these evaluations will be provided to other federal, state, and local agencies for their use. In addition, specific program and project evaluations are undertaken where program effectiveness documentation is needed.

SCS Action	Target Dates
• Initiate and carry out evaluation of the Public Law 566 Watershed Program	Ongoing
• Initiate special studies to develop data on cost-effectiveness of NPS control measures and the quantification of both problems and impacts	FY 1985
• Develop a Resource Conservation and Development Evaluation plan	FY 1985
• Create evaluation team for technology transfer of results of LaPlatte Land Treatment Watershed Project in Vermont	Oct. 84
• Initiate pesticide-groundwater field studies	FY 1985
• Provide continued support to National Water Quality Evaluation Project at North Carolina State University	Ongoing
• Participate in evaluation of RCWP	Ongoing
• Participate in: AISWPCA state NPS Assessment NACD/EPA NPS Clearinghouse Soil Conservation Society of America (SCSA) Special Publication on NPS North America Lake Management Society (NALMS) Conference National NPS Meeting Off-site Effects Symposium	Ongoing

U.S. Department of Agriculture
Agricultural Stabilization and Conservation Service

B-31-a

United States
Department of
Agriculture

Agricultural
Stabilization and
Conservation Service

P.O. Box 2415
Washington, D.C.
20013

JAN 22 1985

Mr. Jack Ravan
Chairman, Federal, State and
Local NPS Task Force
Office of Water (WH-566)
Environmental Protection Agency
Washington, D.C. 20460

Dear Mr. Ravan:

The Agricultural Stabilization and Conservation Service has appreciated the opportunity of having membership on the Task Force Committee which has developed the National Nonpoint Source Policy. We believe this policy as developed is a positive step toward improving water quality and recommend it to you for adoption.

Sincerely,

Everett Rank

Administrator

cc: Ms. Vivian Daub

ASCS

AGRICULTURAL STABILIZATION AND CONSERVATION SERVICE (ASCS)
NONPOINT SOURCE (NPS) STRATEGY

PREAMBLE

To implement the newly established national NPS strategy, ASCS has developed the following related to the programs and authorities it administers:

A. This strategy is based upon the policy included in Section 1501 of the Agriculture and Food Act of 1981 which states:

> "Congress hereby affirms its policy to promote soil and water conservation, improve the quality of the nations waters, and preserve and protect natural resources through the use of effective conservation and pollution abatement programs."

B. The President's National Program for Soil and Water Conservation (NCP) issued pursuant to the requirements of the Soil and Water Resources Conservation Act (RCA) of 1977 (PL95-192), established the following long-term objectives:

1 - Development of a program that will lead to nondegradation of the nation's soil and water resources.

2 - Increasing on and off farm irrigation efficiences.

3 - Effective utilization of water, including soil moisture, for needed agricultural production.

4 - Reduction of flood damages on agricultural lands and in rural communities.

5 - Improvement of rangeland.

6 - A continued response to efforts initiated by State and local governments and the Environmental Protection Agency to reduce agricultural pollution from nonpoint sources.

C. Soil Conservation Service, Forest Service, Extension Service and others cooperate to provide the necessary technical determinations for practices implemented under ASCS cost shared programs which reflect their NPS strategies.

D. ASCS program objectives for the Agriculture Conservation Program, Rural Clean Water Program, Emergency Conservation Program, Forestry Incentives Program, and Water Bank Program emphasize the following factors:

1 - The need to control erosion and sedimentation from agricultural land and conserve the water resources on such land.

2 - The need to control pollution from animal wastes.

3 - The need to facilitate sound resource management systems through soil and water conservation.

4 - The need to encourage voluntary compliance by agricultural producers with Federal and State requirements to solve nonpoint sources of pollution.

5 - The policies reflected in the National Environmental Policy Act of 1969 and other congressional and administrative actions.

6 - The degree to which the measures contribute to the national objective of assuring a continuous supply of food and fiber necessary for the maintenance of a strong and healthy people and economy.

7 - The type of conservation measure needed to improve water quality.

E. Future programs will take into consideration the aforementioned objectives plus any other factors deemed appropriate based on the legislation passed.

F. Local, State and National Conservation Review Groups meet periodically to review program accomplishments, establish priorities, and recommend needed changes. NPS strategy for all on-going programs is an integral part of this review. ASCS' development of conservation practices eligible for cost-share assistance will continue to emphasize the consideration of the impacts on NPS pollution.

G. NPS problems are recognized through previous special project efforts, the targeting effort, and the identification of water quality problems as one of the primary purposes eligible for cost-sharing assistance reported in the Conservation Reporting and Evaluation System (CRES).

PROBLEM ASSESSMENT AND IDENTIFICATION

A ASCS will cooperate and participate with other Federal, State, and local agencies in identifying agricultural sources of NPS water pollution and explore ways to improve water quality using current funds available.

B State and county committees shall recommend cost-effective special practices for approval by the national conservation review group that provide a solution to site specific NPS problems.

C The objectives of this strategy are to:

1 Use existing NPS treatment knowledge and experience.

2 Use RCWP water quality data to evaluate best management practices.

3 Require State and county committees to work with appropriate federal, State, and local agencies to jointly identify water quality problems, develop and implement NPS solutions to water quality problems.

4 Identify available resources for commitment to cost-effective NPS best management practices (BMP's).

5 Increase the level of emphasis and support on NPS conservation programs for the purpose of meeting water quality goals.

6 Encourage States and counties to identify and prioritize both short-term and long-range NPS goals.

7 Encourage the development of special practices to cost-effectively treat site-specific NPS problems.

MONITORING AND DATA MANAGEMENT

A ASCS monitors and evaluates its on-going programs through the CRES. The CRES data by agreememt can be made available to any other agency or entity such as: EPA, TVA, or SWCD's for their evaluation of cost-shared programs administered by ASCS. Memorandums of Understanding may be developed for non USDA entities to use the CRES as a data collection vehicle for other conservation evaluation purposes.

B ASCS will continue to work with EPA, SCS, FS, ES, and others in making CRES more responsive for evaluating water quality benefits by taking the leadership for revising the water quality data item currently being reported in CRES to provide more meaningful and useful data for water quality evaluation.

IMPLEMENTATION

A ASCS will insure that EPA and other interested water quality agency representatives are invited to scheduled conservation review group meetings.

B Conservation review group meetings will place additional emphasis on water quality NPS pollution by:

1 Identifying and prioritizing known NPS problem areas.

2 Developing any cost-effective special practices necessary to solve the identified water quality problem.

3 Proposing special water quality projects for special funding consideration.

C ASCS will work closely with EPA and SCS to develop quantifiable water quality data that can be appropriately collected through CRES to provide a better tool for monitoring and evaluating water quality efforts.

D ASCS will work with other agencies to provide training to employees in identifying agricultural NPS problems.

E When appropriate, ASCS will allocate ACP funds nationally to State ASCS offices to be used specifically for special projects. State ASC committees will be encouraged to have counties develop water quality special projects for funding from this allocation in addition to any State held ACP reserves for special projects.

F States and counties will be encouraged to recommend site specific BMP's for approval at the national level.

G ASCS will continue to provide conservation program administration and financial assistance through existing programs and delivery system. Technical assistance will be provided by SCS, FS, ES, SWCD, and others.

H ASCS will require State and county offices to include water quality priorities in Memorandums of Understanding when updated with other Federal and State agencies including EPA to implement the national NPS strategy.

I County ASC committees will be encouraged to work closely with local SWCD's in developing and establishing conservation and water quality priorities.

U.S. Department of Agriculture
Forest Service

B-36-a

United States
Department of
Agriculture

Forest
Service

Washington
Office

12th & Independence SW
P.O. Box 2417
Washington, DC 20013

Reply to: 1350

Date: JAN 29 1985

Mr. Jack Ravan
Assistant Administrator for Water
Office of Water (E1035)
U.S. Environmental Protection Agency
Washington, DC 20460

Dear Mr. Ravan:

The Forest Service supports the National Nonpoint Source Policy statement as developed by the National Nonpoint Source Task Force and as presented to Mr. Ruckelshaus at the Task Force Meeting on December 12, 1984. We believe this policy is consistent with Forest Service policy and will be of value in developing a coordinated management strategy between Federal and State agencies.

The Forest Service Strategy presented to you at the Task Force Meeting was developed with the objective of meeting the provisions of the Policy Statement. We would appreciate EPA's review and comment regarding our success in meeting that objective and we look forward to working with you and your staff during the development and refinement of EPA's Strategy. A coordinated review of both EPA and Forest Service Strategy could be accomplished through the existing FS/EPA Water Quality Work Group.

Sincerely,

R. MAX PETERSON
Chief

FOREST SERVICE NONPOINT SOURCE STRATEGY

PREAMBLE

This document outlines Forest Service strategy for management of nonpoint sources of (NPS) pollution from forest and range management activities. This strategy is based on legislative authority dating back to 1897 and is in accordance with the Clean Water Act. The Organic Administration Act of 1897, under which the Forest Service operates, requires that National Forests be managed for the purposes of securing favorable conditions of water flow and to ensure a continuous supply of timber. Favorable conditions of water flow includes acceptable water quality. The Multiple-Use Sustained-Yield Act of 1960 assigns responsibility to the Forest Service for administering National Forests for multiple uses, including the use and protection of water. Responsibility for the protection of water quality is achieved through the management of all resources on the National Forests in a manner that is compatible with water quality goals. Because of Forest Service responsibility for management of all resources, forest management necessarily includes not only silvicultural uses, but also such other uses as grazing, recreation, mining, fisheries and wildlife. Pursuant to the Forest and Rangeland Renewable Resources Planning Act of 1974 and its amendments in the National Forest Management Act of 1976, the Forest Service formulates, continuously monitors, and updates renewable resources programs for management and administration of National Forest System lands, for research, and for cooperation with State and Private Forest Service activities. Included in these programs are water resources and specifically water quality. In addition to the management of National Forest Systems lands, the Forest Service pursuant to the Cooperative Forestry Assistance Act of 1978 is responsible for technology transfer to individual States on matters related to forest management, including watershed and water quality management. Further, since the early 1900s the Forest Service has conducted extensive research on the relationship between forest management practices and water quality. Because of extensive experience in water quality management, the Forest Service serves other Federal agencies, State agencies, local agencies and governments, and the public as the source of technical information on issues related to forest lands. The Forest Service has provided leadership in water quality management through the following actions:

1. Formulating programs on National Forest System lands that ensure the protection of the water resource through the management of other resources under requirements of the Multiple-Use Sustained-Yield Act, Forest and Rangeland Renewable Resources Planning Act, and National Forest Management Act.

2. Providing technology transfer and technical assistance to individual States through State and Private Forestry program.

3. Continuing research designed to provide a better understanding of the relationship between forest management and impacts on water quality and beneficial uses.

4. Providing leadership for forestry and forest watershed management through work with EPA and other Federal, State, and local agencies during development of programs and regulations designed for the protection of water quality on forest lands.

The above actions served as a basis for the development of the nonpoint source control strategy.

PROBLEM ASSESSMENT

Nonpoint sources from forest management activities have been identified by several States in their 208 Plans as significant contributors of pollution. Implementation of nonpoint source programs is necessary to correct or mitigate existing problems, and to prevent or minimize potential problems associated with future forest management activities. To achieve these objectives, water resources must be managed as an integral component of other forest resource management programs. The principal nonpoint source problem associated with forest management activities is a potential increase in sediment. Other water quality characteristics that may change due to forest management activities include stream temperature, introduced chemicals and increased biochemical oxygen demand. Through good forest management and application of Best Management Practices (BMPs), potential nonpoint source pollution can be prevented or minimized. Direction for design and application of BMPs is provided through such documents as State Water Quality Programs, State Forest Resource Plans, and National Forest Land and Resource Management Plans. Research will continue to identify and solve forest management related water quality problems.

Problem Identification

Problem identification is an important first step in order to determine sources of water quality problems and to determine priorities for corrective treatments.

FOREST SERVICE Action	Target Date
* Define potential water quality problems; such as road construction, grazing, timber harvesting, site preparation, and use of introduced chemicals on National Forests during the Forest Planning processes, including inventorying and monitoring.	Continuing
* Use and refine Agency handbook materials such as Water Resource Evaluation Nonpoint Silvicultural Sources (WRENSS).	Continuing
* As requested, assist individual States during development of State Forest Resource Plans and Water Quality plans.	Upon Request

* As requested, assist individual States through participation in technical committees to develop a process for identifying problem areas on private forest lands and provide technical assistance during development of silvicultural NPS Strategies.	Upon request
* Continue to work with user groups to identify NPS problems and to conduct research to define and resolve identified NPS problems associated with forest management practices.	Continuing
* Identify opportunities in each resource management area for controlling nonpoint sources by improving watershed condition.	Continuing

Monitoring and Data Maintenance

Monitoring includes a system of sampling that provides for a broad scale general evaluation of BMP effectiveness. Site specific evaluation of cause/effect relationships is conducted primarily through research and limited administrative studies.

FOREST SERVICE Action	Target Date
* Base line water quality monitoring at selected sites.	Continuing
* Project monitoring on a sample basis to ensure approved practices and BMPs are applied.	Continuing
* Evaluate National Forest System operations on a sample basis to determine effectiveness of management prescriptions.	Continuing
* Site specific monitoring to determine effectiveness of prescribed BMPs through administrative studies on a limited bases for specific situations.	Continuing
* Share Forest Service data with others through data storage in the EPA Storet system.	Continuing
* Continue use of USGS systems such as Water Data Storage and Retrieval System (WATSTORE) and National Water Data Exchange (NAWDEX) as appropriate.	Continuing

* Continue participation on the USGS's Interagency Advisory Committee on Water Data and its various subcommittees.	Continuing
* Assist States in developing monitoring strategies and procedures for silvicultural NPS.	Upon request

Research and Development

Forest management research will be used as necessary where adequate information does not exist in order to determine effectiveness of a specific practice or a set of practices. Research level instrumentation and measurement normally necessary for such studies due to the natural variability that must be accounted for.

FOREST SERVICE Action	Target Date
* Site specific evaluations to determine cause/effect relationships between forest practices and water quality, to evaluate BMP effectiveness and to determine new BMPs.	Continuing
* Develop technology to help determine baseline water quality levels.	Continuing
* Determine better means of estimating impacts of planned forest management activities on water resources.	Continuing
* Develop improved water quality sampling and measurement techniques.	Continuing
* Continue to work with various user groups such as States, Universities, and forest managers in setting research priorities and developing programs.	Continuing

PROGRAM IMPLEMENTATION

Forest Service control strategy will be implemented through Forest Plans, research projects, and State and Private Forestry technical assistance to States.

Program Planning, Development, and Implementation

FOREST SERVICE Action	Target Date
* Provide guidance for water quality protection in the Forest Service Manual and in Regional Guides for developing Forest Service programs and plans.	Continuing
* Coordinate Forest Service programs with EPA, other Federal Agencies, State Agencies, and local water quality entities to implement NPS control programs.	Continuing
* Implement water quality programs as contained in the RPA Program, Regional Guides, and and Forest and Research Plans.	Continuing
* Carry out Forest Service responsibility for management of nonpoint programs on National Forest System lands.	Continuing
* Continue implementation of a coordinated improvement program for improving watershed condition and subsequent reduction of nonpoint sources.	Continuing

Technical Assistance/Education

FOREST SERVICE Action	Target Date
* Provide technical assistance as requested to States in utilizing or adopting the FS/EPA developed educational program on silvicultural NPS Management (Forest Water Quality Training Program).	As Requested
* Provide In-Service training for personnel involved in resource management where there is a potential for impacting water quality.	Continuing
* Provide technical expertise to EPA for all aspects (program, policy and strategy formulation, BMPs, etc.) of Forest Management NPS.	Continuing
* Continue technical transfer activities, sharing technical advances in Forest management NPS controls with applicable State and Federal Water Quality agencies.	Continuing

FOREST SERVICE NONPOINT SOURCE STRATEGY

COORDINATION

Cooperate with EPA, State, interstate, and local agencies in the prevention and abatement of environmental pollution, particularly Forest Management nonpoint source pollution.

FOREST SERVICE Action	Target Date
* Review and strengthen as needed, EPA/FS interagency agreement.	Continuing
* Continue to work with EPA on water quality issues through existing or new Forest Service/EPA Work Groups and Committees.	Continuing
* Participate in the Interagency Committee on Ground Water.	Continuing

RESOURCES

FOREST SERVICE Action	Target Date
* Funds for implementing this strategy will be identified through the regular Forest Service program and budgeting process supplemented, as appropriate, by EPA.	Continuing

PROGRAM EVALUATION AND OVERSIGHT

Forest Service will manage National Forest System lands, provide State and Private Forestry programs, and conduct research in a manner which will meet the goals and objectives of the Clean Water Act. Forest Service programs will be evaluated for compliance with the goals and objectives of the Clean Water Act as part of the regular monitoring and evaluation of Forest and Research plans, and during periodic program and activity reviews.

U.S. Department of Agriculture
Extension Service

B-43-a

United States
Department of
Agriculture

Extension
Service

Natural Resources and
Rural Development

Washington, D.C.
20250

RECEIVED
10-26-84
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October 24, 1984

Mr. Jack E. Ravan
Chairman
Federal-State-Local NPS Task Force
Office of Water (WH-556)
U.S. Environmental Protection Agency
Washington, D.C. 20460

Dear Mr. Ravan:

Over the past six months, I have been a Task Force member to help develop approaches to managing nonpoint sources that would strengthen and improve our mutual efforts to address these problems at all levels.

In addition, my agency is developing a strategy outlining ongoing and future nonpoint source management activities. This strategy will be reviewed by the Extension Committee on Organization and Policy during their meeting, November 9-14, and will be transmitted to your office shortly thereafter.

I believe the National Nonpoint Source Policy being developed by our Task Force will help us all better coordinate our approaches and programs. The Policy will be reviewed by the USDA's Committee on Natural Resources and Environment on November 14. After this policy review is completed, I will be happy to join with you in recommending that the policy statement be presented to Mr. Ruckelshaus in December.

In the meantime, I understand that representatives of the involved USDA agencies are reviewing the policy statement, and that suggestions, for a final version may be forthcoming. We look forward to meeting with you on November 20.

Sincerely,

Merrill L. Petoskey

MERRILL L. PETOSKEY
Deputy Administrator

cc: F. Swader

DRAFT:10/25/84

EXTENSION SERVICE-USDA

STRATEGY ON NON-POINT SOURCE POLLUTION

The Extension Service-USDA (ES) has developed this strategy to complement the newly established national Non Point Source Policy, and to fulfill the responsibilities of ES as a federal agency in assisting in the prevention or abatement of Non Point Source (NPS) pollution.

A. Authorities

1) This strategy is based upon the authority granted to USDA by the Smith-Lever Act of 1914 (ch79, 38 Stat.372, 7 V.A.X.341 et seg.) and subsequent amendments which state

> "In order to aid in diffusing among the people of the United States useful and practical information on subjects relating to agriculture ----and to encourage the application of the same, there may continued or inaugurated ----agricultural extension work which shall be carried on in cooperation with the United States Department of Agriculture."

2) The Agriculture and Food Act of 1981 (Section 1501) which states:

> "Congress hereby affirms its policy to promote soil and water conservation, improve the quality of the nation's waters, and preserve and protect natural resources through the use of effective conservation and pollution abatement programs." and upon

3) The President's National Conservation Program (NCP) for soil and water issued pursuant to the requirements of the Soil and Water Conservation Act of 1977 (PL95-192), established the following long-term objectives:

   1. Development of a program that will lead to nondegradation of the nation's soil and water resources.

   2. Increasing on and off farm irrigation efficiences.

   3. Effective utilization of water, including soil moisture, for needed agricultural production.

   4. Reduction of flood damages on agricultural lands and in rural communities.

   5. Improvement of rangeland.

   6. A continued response to efforts initiated by State and local governments and the Environmental Protection Agency to reduce agricultural pollution from nonpoint sources.

B. Formulation

This strategy has been formulated in conjunction with the national Non Point Source Task Force, and has been reviewed by the Extension Committee in Organization and Policy

C. Constraints

This strategy has been developed under guidelines issued by the National Non Point Source Task Force, and is predicated upon the assumption that no new federal funds are likely to be appropriated for ES for the conduct of Non Point Source (NPS) pollution programs.

Situation

The Extension Service-USDA is part of a three-way partnership (federal, State, and county) known as the Cooperative Extension Service (CES).

Extension Service-USDA provides support for the State Cooperative Extension organizations by overseeing the distribution of federal funds, by reviewing CES programs, and by alerting States about federal priorities and programs.

CES is the educational arm of the Department of Agriculture with offices in most of the 3138 counties in the nation. At the county level, Extension agents provide educational information, materials, publications, and advice in the major areas of agricultural production and marketing, natural resources and rural development, family living, food and nutrition, and 4-H youth programs.

The CES is an example of a working three-way partnership. Funding is provided from federal appropriations (40%); state appropiations (40%) and local appropriations (20%). Such a partnership assures local oversight of programs; as well as local identification of priority program areas.

CES involvement in the national Non-Point Source (NPS) effort focuses on information and education programs that develop awareness of: (1) the nature, scope, and impacts of NPS pollution, (2) the need to employ best management practices to reduce NPS pollutant inputs to surface and ground waters, and (3) the mechanisms to integrate such best management practices into the production systems and lifestyles of the audiences.

Credible educational programs must be based on an understanding of biological,physical and chemical processes and interactions sufficient to enable clients to make rational decisions.

Best management practices to control Non Point Source pollution, to be effective and avoid causing other problems, should be based on a knowledge of the basic scientific concepts

Many single-purpose management practices which have been recommended as "best" have the potential to seriously degrade the ground water resource. For instance, polluted urban runoff stored in detention basins may infiltrate to the ground water; chemicals applied to agricultural crops or to lawns and other turf areas may infiltrate; and sewering to eliminate septic tank effluents may lower ground water levels substantially.

CURRENT PROGRAMS

Cooperative Extension Service activities relevant to NPS pollution include:

- Designation of a Non Point Source coordinator by CES in every State; These persons will provide coordination among CES NPS programs and the programs of other State and federal agencies.
- Active participation in multi-agency efforts to assess the extent and impact of NPS pollutants on surface and ground water.
- Development of educational programs to increase farmer awareness of the need for proper management of animal wastes, to reduce inputs of nutrients to surface and ground waters.
- Development of programs to increase homeowner awareness of proper use and disposal of household pesticides, to decrease adverse environmental impacts.
- Programs about irrigation management (scheduling) and use of fertilizer materials to reduce the imput of nitrates to the ground water.
- Educational programs for adults and youth about use of conservation tillage techniques to reduce soil erosion and the resulting inputs of nutrients, sediment, and pesticides to surface waters.
- Educational programs to train pesticide applicators, making them aware of the potential impacts of pesticides on the environment.
- Integrated pest management programs to make farmers, pesticide applicators, and rural communities aware of the need for, and benefits of, careful applications of pesticides.
- Educational programs on best management practices appropriate for forest industries and benefits of their use to the public, the landowner, and logger.
- Educational programs to make homeowners aware of the need for a safe water supply, means of obtaining and interpreting water tests, and practices that households, businesses, and farms can employ to safeguard the water supply.
- Programs to educate lakeside residents on proper methods of treating domestic wastes to protect water quality.
- Computer simulation programs to teach the public about the need for water resource planning, the complexity of resource allocations, and the tradeoffs involved.
- Establishment and maintenance of a liaison among CES in the States of the North Central Region and the Environmental Protection Agency (EPA) Region V office in Chicago.

- Production of slide sets, bulletins, and other publications on aspects of NPS pollution.

- Completion of a series of State education programs by the States in the EPA's Region V area.

In 1982 CES estimated that resources exceeding $6 million a year were being allocated to NPS educational programs, despite Federal appropriations of less than $1 million (total) for such programs. The $6 million did not include such programs as Integrated Pest Management, or Pesticide Applicator Training; nor did it include many of the tangential, but essential programs in such areas as weed control, or conservation tillage. CES in many states have reallocated resources for NPS programs to the fullest extent possible. No additional reallocations can be made without seriously impacting existing programs.

FUTURE STRATEGY

The Extension Service-USDA will encourage CES to build upon current efforts; to develop NPS education programs that reflect state and local needs and priorities; and to deliver such programs in efficient, cost effective ways. To assist in these efforts, the Extension Service will:

- Continue to provide a position of National Program Leader-Environmental Quality on the ES staff.

- Continue to inform CES of the need for programs to develop public understanding and individual efforts to reduce NPS pollution.

- Periodically monitor the level of CES involvement in the development and delivery of NPS education programs.

- Assist the States in identifying resources for the development and delivery of appropriate NPS educational programs.

- Encourage development of communications and liaison among CES and EPS regional offices.

- Encourage development of joint program planning among CES, private organizations, and state water quality agencies, including formal agreements, where appropriate.

- Continue to provide national leadership, and to emphasize NPS programs, to CES in a wide range of subject matters areas, including: water resources; pesticide applicator training; integrated pest management; conservation tillage; pesticide impact assessment; environmental quality; range management; forest management; farm management; soil fertility and nutrient management; pesticide management; crop production; livestock production; family living; human nutrition; and rural development.

- Cooperate with other federal agencies to develop coordinated programs to reduce NPS pollution.

- Continue, and periodically update, the Memorandum of Understanding between the Extension Service-USDA and the U.S. Environmental Protection Agency (current version attached).

Memorandum of Understanding
between the
U.S. Environmental Protection Agency
and the
Extension Service
of the
U.S. Department of Agriculture

WHEREAS, the Secretary of Agriculture and the Administrator of the Environmental Protection Agency in January 1979 entered into an Agreement to provide for the maximum utilization of programs intended to achieve and maintain water quality through implementation plans approved pursuant to water quality management provisions of P.L. 92-500, as amended; and

WHEREAS, P.L. 90-577 and P.L. 91-190 authorize and require integrated planning, decisionmaking, and coordination of actions that impact man's environment; and

WHEREAS, the resources and expertise of the Extension Service (ES), U.S. Department of Agriculture (USDA), and State Cooperative Extension Services are able to assist the U.S. Environmental Protection Agency (EPA), State, and local agencies in developing and implementing rural water quality management programs; and

WHEREAS, EPA's resources and expertise are, in part, directed towards planning and implementing a variety of measures to identify, control, and reduce nonpoint sources of pollution;

NOW, THEREFORE, the parties hereto mutually agree, as follows:

A. ES Agrees To:

1. Assign appropriate staff to serve as liaison with EPA on matters concerned with nonpoint source pollution control.
2. Cooperate with EPA in the design of appropriate research and education programs and the development of materials related to nonpoint source pollution control for dissemination to the public through the State Cooperative Extension Services.
3. Provide EPA with copies of all ES educational publications dealing with nonpoint source pollution identity, control, and abatement and to encourage the State Cooperative Extension Services to distribute their publications on these subjects to State and areawide water quality planning and management agencies.
4. Encourage the State Cooperative Extension Services to provide assistance to State and areawide water quality planning agencies in the design, development, and support of nonpoint source identity, control, and abatement programs. Funding for this work will be sought through the normal ES budgetary process, by the pass-through of funds from EPA to ES, or by transfer of P.L. 92-500, as amended, funds to State water quality management agencies to State Extension Services.
5. Expand channels of communication and distribution of information relating to nonpoint source pollution programs to the State Cooperative Extension Services.

6. Encourage the State Cooperative Extension Services' active participation in State and areawide water quality planning agencies' nonpoint source pollution abatement programs.

7. Provide information and feedback on agricultural, aquaculture, and silvicultural-related areawide nonpoint source pollution problems for the State Cooperative Extension Services to EPA.

8. Assist EPA in developing new programs of mutual interest.

B. EPA Agrees To:

1. Assign appropriate staff to serve as liaison with ES on matters concerned with nonpoint source pollution control.

2. Cooperate with ES in the design of appropriate educational materials relating to preventing, reducing, or eliminating pollution resulting from agricultural, aquaculture, and silvicultural activities.

3. Provide ES with copies of all EPA publications dealing with nonpoint source pollution identification, control, and abatement.

4. Assist ES in the distribution of pollution control information to the State Cooperative Extension Services.

5. Coordinate with ES in the design, development, and support of nonpoint source pollution abatement education programs to be conducted by ES or on an areawide or State level by participating State Cooperative Extension Services.

6. Encourage communication and cooperation between EPA Regional Offices and the State Cooperative Extension Services in matters relating to ES education needs and programs pertaining to nonpoint source pollution identity, control, and abatement programs.

7. Assist ES in developing new programs of mutual interest.

C. It Is Mutually Agreed:

1. To continue to develop and implement research and education programs that will assist States, local communities, and farmers in developing and implementing effective management programs to abate nonpoint pollution and improve water quality.

2. To assist each other in the development, dissemination, and practical application of technical information pertaining to the selection and implementation of superior management practices for abating nonpoint pollution from agriculture, aquaculture, and silviculture operations.

3. Representatives of ES and EPA will meet at least annually to review and plan activities conducted pursuant to this Agreement. The annual meeting should be as soon after the beginning of the fiscal year as possible to facilitate review of past activities, implementation of present activities, and planning of future activities.

4. EPA and ES may enter into subarrangements to accomplish their responsibilities.

5. The development of programs and materials will recognize the positions and general strategies included in the document entitled "Cooperative Extension's Role in Water Quality Programs."

6. This Agreement is neither a fiscal nor funds obligation document. Any endeavor involving reimbursement or transfer of funds between the parties to this Agreement will be handled according to prescribed procedures and will be the subject of subsidiary agreements which shall be effected in writing by representatives of both parties of this Agreement.

7. This Agreement shall become effective on the date of final signature and shall continue in effect 5 years after the date of final signature, but may be modified, amended, or supplemented by written mutual agreement and may be terminated by either party upon 3 months notice in writing to the other party.

8. This Agreement replaces that of October 15, 1979, between the EPA and the Science and Education Administration, USDA.

FOR THE ENVIRONMENTAL PROTECTION AGENCY:

Bruce R. Barrett

Feb 26, 1982
Date

FOR THE U.S. DEPARTMENT OF AGRICULTURE:

Mary N. Greenwood
Administrator, Extension Service

March 5 '82
Date

U.S. Department of the Interior
Geological Survey

B-51-a

THE SECRETARY OF THE INTERIOR
WASHINGTON

December 13, 1984

12-28-84
B

Mr. William D. Ruckelshaus
Administrator
Environmental Protection Agency
401 M Street, SW.
Washington, D.C. 20460

Dear Mr. Ruckelshaus:

In an October 11, 1984, letter Mr. Jack Ravan requested that Department of the Interior representatives on the Nonpoint Source (NPS) Task Force each provide the EPA with written concurrence on the proposed draft National Nonpoint Source Policy. Because of the diversity of Interior's functions and activities dealing with nonpoint sources, we conducted a Departmental review of the draft so that we might provide the EPA with a comprehensive and coordinated Interior Department response. It is our conclusion that the Policy does a good job of envisioning how the many diverse governmental nonpoint source pollution activities might be better coordinated. However, if the draft will be proposed for adoption as a National Policy we suggest that the changes discussed below and those provided on the attached page be incorporated.

Most importantly, the Policy should clearly state whether or not the EPA intends to develop a nationwide regulatory and enforcement program for nonpoint sources. This pivotal question pervades almost every discussion of the nonpoint source issue, and should not be sidestepped. I recommend that the Policy acknowledge that the Federal Government's approach will be based on improved coordination among all levels of government, supportive research, and incentives rather than on regulations. Moreover, I believe we share the view that given the wide variability of nonpoint sources nationwide, state and local governments are in a better position than we here in Washington to decide whether a regulatory program is needed, and if so, how it should be designed for their jurisdictions. This approach is realistic, firmly based on the Section 208 planning experience, and is widely supported by those knowledgeable about this problem.

Secondly, although the draft mentions research in several places we strongly feel that greater emphasis is needed on process-related research for the purpose of separating the effects of natural inputs from anthropogenic inputs, and of avoiding the potential for unwanted side-effects of "best management practices," such as the transfer of pollutants to another part of the hydrologic system--the ground-water. Interior would welcome the opportunity to meet with EPA staff to jointly delineate a nonpoint source research agenda.

The timing of the EPA-sponsored efforts is also of concern. The finalization of the National Policy would precede a national conference designed to elicit feedback from all constituencies. This conference, in turn, precedes publication of a major report on the present status of nonpoint source pollution in the Nation. It would seem the order of these activities should be reversed.

I appreciate EPA's openness to input from Interior and other agencies in formulation of the Policy. I commend you for the very fine work done by the Agency and the Task Force, and look forward to continued cooperation between our two agencies so that further progress can be made on the nonpoint source problem.

Sincerely,

William Clark

Attachment

November 19, 1984

U.S. GEOLOGICAL SURVEY STRATEGY ON NONPOINT SOURCE POLLUTION

The U.S. Geological Survey (USGS) was established on March 3, 1879, and assigned the responsibility for "classification of the public lands, and examination of the geological structure, mineral resources, and products of the national domain." Over the years, Congressional and Executive directives have expanded the Survey's geological mission to include topographic mapping, and hydrological investigations of water in streams and underground. In compliance with this broad mission for earth science research and application, the USGS provides hydrologic data and an understanding of hydrologic processes for the best use and management of the Nation's water resources. Although not a regulatory nor land-management agency, USGS collects large amounts of data and performs hydrologic investigations related to the identification and management of nonpoint sources of pollution. Some of these activities are federally funded under various national programs of the U.S. Geological Survey (USGS). Others are conducted in cooperation with State and local agencies (on a 50/50 matching basis) or are supported by other Federal agencies. Among the national programs of the USGS which relate directly to nonpoint source pollution (NPS) problems are the Acid Rain Program, the Toxic-Waste--Ground-Water Contamination Program, and a new program focusing on toxic substances in surface water and sediment.

In keeping with its role as a scientific agency, the USGS will contribute to the national nonpoint source pollution effort by developing, interpreting and disseminating scientific information on the nature, extent, and causes of the problem. This information will allow management and regulatory agencies to develop cost effective strategies to reduce nonpoint source pollution. Best management practices to control nonpoint source pollution should be based on a knowledge of the hydrological and geochemical processes that control the NPS pollutant. Where such knowledge has been unavailable or not considered in the design of control practices, subsequent operations have often generated new problems, such as degradation of the ground-water resource. For instance, polluted urban runoff stored in detention basins may infiltrate to the ground water; the new generation of rapidly degradable pesticides, which overcame the longevity problems of earlier chemicals, are more water soluble and, therefore, more likely to infiltrate to ground water; and sewering to eliminate septic tank effluents may substantially lower ground-water levels. These examples illustrate that management strategies must be based upon a sound understanding of hydrologic factors if they are to result in a net improvement, rather than an exchange of one problem for another.

Under its various national and cooperative programs, USGS carries on a number of activities relevant to NPS pollution. Some examples are given below.

- o Providing high-quality chemical analyses of water samples for Federal and Federal/State Cooperative investigations of water-quality problems.
- o Monitoring water quality at a nationwide network of 503 fixed stations (the National Stream Quality Accounting Network) representing major drainage basins, and at a nationwide network of 52 fixed stations located in pristine areas (Hydrologic Bench-Mark Network). USGS is currently evaluating temporal trends in these data.
- o Providing computer-assisted access to these and all other water-quality data through the USGS WATSTORE system, and providing these data to EPA's STORET system.

- Through the Office of Water Data Coordination, providing coordination for activities relating to water data in all Federal agencies.

- Through the National Water Data Exchange, providing computer-assisted access to indexes of water data in Federal, State, and local agencies.

- Undertaking cooperative hydrologic investigations with State or local governments (50 percent non-Federal funding) and with other Federal agencies on specific hydrologic problems; 43 projects related to NPS were active in fiscal year (FY) 1984, and over 200 reports related to NPS have been published since 1968.

- Publishing an annual "National Water Summary" including descriptions of major NPS pollution problems in each State (currently working on the 1984 edition, focusing on sediment, dissolved solids, and nutrients in the Nation's rivers).

- Supporting the development of models to compute loadings, transport, and fate of contaminants in surface and ground waters.

- Completing the last of 57 reports on the hydrology of major coal mining provinces in the East, Midwest, and Rocky Mountains, including discussions of water quality.

- Continuing investigation of urban runoff processes to provide guidance to urban planners and to aid the development of methods for controlling pollutants.

- Conducting research on the fundamental processes of pollutant mobilization, partitioning between sediment and water, bioaccumulation, transport, degradation, and fate. Increased efforts are now being planned for toxic substances in surface water and sediment in FY 1986.

In conclusion, USGS has many active investigative programs relative to NPS. USGS will expand and intensify these programs insofar as budgetary and manpower constraints permit. It is the Geological Survey's position that remedial measures which are based on inadequate information are rarely cost effective, and even harmful. We believe that a small investment in investigation can prevent costly errors and can indicate effective remedial policies and directions.

U.S. Department of the Interior
Bureau of Land Management

B-57-a

NOTE: See letter of support from Secretary William Clark, U.S. Department of the Interior, printed in the section on the U.S. Geological Survey.

DRAFT

BUREAU OF LAND MANAGEMENT
STATEGY ON NONPOINT SOURCE POLLUTION

The Bureau of Land Management (BLM), U.S. Department of the Interior, manages the nation's public lands (located predominently in the western states) and administers federally-owned minerals (which may be located under BLM or other Federal, State, or private lands. As a Federal land management agency, the BLM is responsible for the planning and implementatgion of multiple-use programs in rangeland resources (including livestock grazing), forestry management and development, management of wild horse and burro populations, solid and fluid mineral development, cultural and paleontologic resources identification and protection, wildlife habitat management, visual and recreational resource management, etc.

The watersheds located on the public lands are hydrologically diverse and include headwaters (such as vast areas in Colorado and Wyoming on the western slope of the Rockies), the Great Basin, and downstream tributaries to the lower Colorado River. Background levels of nonpoint sources of pollution on lands administered by the BLM include contributions of sediment, salts, nutrients, and bacteria. BLM potential land management actions address background and the potential of contributions of nonpoint source pollution during the documented planning analysis and selection of alternatives of single and multiple use actions. In addition, the BLM has undertaken site-specific on-the-ground research projects (including interagency efforts) targeting runoff, sediment, and chemical nonpoint source problems (including the addressing of background levels) on the public lands; management techniques identify structural improvements, soil and/or vegetation manipulation, and land use (timing, intensity, spatial location, type of use).

The BLM has funded and continues to fund and implement, via the agency's normal budget and program planning and by special legislation, numerous efforts to reduce nonpoint source pollution on the public-lands. In addition to those efforts addressed above, the BLM cooperates with numerous State land and water management agencies in the planning, development, and implementation of State Water Quality Management plans and programs, participation with State governments by way of cooperative agreements in the mutual protection of public health and environmental resources including hydrologic resources which may be impacted by nonpoint source pollution, the incorporation or implementation of best management practices (BMPs) in land actions proposed solely by the BLM on the public lands, and special watershed activity plans which address prescriptive soils, vegetative, and hydrologic improvements or manipulat~~g~~ions in various watersheds.

DRAFT

BUREAU OF LAND MANAGEMENT
STATEGY ON NONPOINT SOURCE POLLUTION
Continued

The BLM will continue to:

provide cooperation and assistance to State agencies in the management of the public lands to reduce nonpoint source pollution sources;

incorporate water quality impacts, including nonpoint sources, ~~to and from~~ into land management actions planned and implemented by the BLM;

identify and address nonpoint source water quality issues in BLM activity plans, including grazing allotment management plans, timber plans, and minerals plans and environmental documents; and

provide personnel and resources to identify nonpoint source pollution and control techniques through coordinated research efforts and the implementation of BMPs.

implement programs and practices in conducting land u
and land management activities to avoid or reduce water quality impacts and to improve water quality as necessary to meet management objectives and regulatory requirements.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Nov. 20. 84

Attached document is intended as a supplement to the BLM draft NPS Strategy statement. The purpose of the supplement is to show by example of this memorandum of understanding with the State of Montana more of the specific details that go into BLM NPS management activities. Similar MOU's are in place in several other Western States, e.g. Oregon Idaho, Utah, Colorado.

* U.S. GOVERNMENT PRINTING OFFICE 1988 418-280/8106

APPENDIX A

MEMORANDUM OF UNDERSTANDING

Between
Montana State Office, Bureau of Land Management
and
State of Montana, Department of Health and
Environmental Sciences
Water Quality Bureau

SECTION I. PURPOSE

The purpose of this agreement supplement is to provide for effective implementation of approved State of Montana Water Quality Management plans on public lands administered by the Bureau of Land Management within Montana. This memorandum expands the responsibilities of both agencies to include the goals of meeting established federal and state water quality standards and BLM implementation of Best Management Practices, wherever feasible. This agreement supersedes and replaces the original Memorandum of Understanding which became effective May 12, 1977. The original agreement will be null and void when this agreement is signed by both parties.

SECTION II. BACKGROUND AND AUTHORITIES

A. Bureau of Land Management

The Federal Land Policy and Management Act of 1976 (PL 94-579) provides BLM authority for inventory and comprehensive planning for all public lands and resources under its jurisdiction. An integral part of this process is water quality consideration, with the mandate that BLM will provide compliance with applicable pollution control laws, including state and federal plans. This is consistent with federal responsibilities incorporated in Executive Order 12088 of 10/13/78 relative to water quality standards and effluent limitations from the discharge or runoff of pollutants described in the Clean Water Act of 1977 (PL 95-217).

PL 94-579 prescribes close coordination between BLM and state and local resource planning and implementation agencies. BLM policy relative to coordination of BLM planning with statewide planning conducted under Section 208 of the Clean Water Act of 1977 is outlined in the National EPA/BLM agreement of 1/5/76.

B. Water Quality Bureau

The Montana Water Quality Act, Montana Code Annotated, Sections 75-5-101 through 75-5-636 and the Water Quality Standards, Rule ARM-16-2.14 (10)-S14480 (6)(0) provide the legal authority to the State of Montana for control of point and nonpoint sources of pollution.

Section 75-5-101 of the Water Quality Act establishes a declared policy of the State to provide a comprehensive program for the prevention, abatement and control of water pollution. Under Section 75-5-605 of the Act, it is unlawful to cause pollution of any state waters. Section 6(0) of the Water Quality Standards rule provides the Department of Health and Environmental Sciences with the authority to order elimination or minimization of pollution resulting from storm drainage, storm sewer discharges, and nonpoint sources, including irrigation practices, road building, construction, logging practices, overgrazing and other practices.

Protection of existing high quality waters is provided for by the nondegradation policy, Section 75-5-303 of the Water Quality Act. This policy instructs that the Board of Health and Environmental Sciences shall require "that any state waters whose existing quality is higher than the established water quality standards be maintained at that high quality unless it has been affirmatively demonstrated to the board that a change is justifiable as a result of necessary economic and social development and will not preclude present and anticipated use of these waters."

Degradation of water quality as a result of stream dewatering apparently cannot be controlled by DHES under the existing legal and administrative framework of the water pollution control program. The DHES, however, can reserve instream flows for the maintenance of water quality through the reservation provisions of the Water Use Act administered by the Department of Natural Resources. The DHES cooperates with the Department of Fish, Wildlife and Parks and other agencies with instream flow projects. Instream flow reservations are recognized by the DHES as a significant mechanism to the maintenance of state water quality standards.

Montana's Section 208 Water Quality Management Plans recommend Best Management Practices to protect Instream water quality and solve existing nonpoint source pollution problems. Montana's Water Quality Standards and water quality criteria for nonpoint source pollutants are based, for the most part, on naturally occuring conditions resulting from runoff from developed lands over which all reasonable land, soil and water conservation practices have been applied. The State's approved Water Quality Management Plans recognize these reasonable practices to mean Best Management Practices.

SECTION III. AGENCY ROLES, PROGRAM IMPLEMENTATION, COORDINATION AND IMPLEMENTING AGENCY DESIGNATION

The Bureau of Land Management and Water Quality Bureau (WQB) mutually agree to the following provisions so as to prevent duplication of effort and to provide the necessary coordination to meet the implementation requirements of PL 95-217.

A. Agency Roles

BLM will exercise its statutory authority and responsibility as the lead management agency for planning and implementing natural resource management programs for the protection of water quality on federal lands under its jurisdiction. BLM district offices will incorporate water quality goals and objectives in their land use plans. BLM on-the-ground actions will be designed to·

1. prevent degradation of water quality from nonpoint source pollution.
2. to the extent practical implement Best Management Practices for water quality protection

The BLM will coordinate its land use planning activities with the Water Quality Bureau in such a manner as to allow the Bureau effective and timely input into the process. The BLM, where appropriate, will coordinate its water quality monitoring and water reservation activities with the Water Quality Bureau. The BLM will continue to use the BLM/DSL cooperative agreement to insure that land use decisions and mine plan approvals comply with both state and federal water quality laws and will confer with the Water Quality Bureau on matters pertaining to the state's nondegradation policy and water quality standards in its approval actions.

The Water Quality Bureau will provide, to the extent practical, water quality information and technical assistance to BLM relative to water quality management considerations in BLM's land use planning processes. WQB assistance would include, but would not be limited to, joint field investigations of BLM determined problem areas.

B. Implementation Program

The implementation program has six major components, including (l) nonpoint source problem assessment; (2) identification and development of Best Management Practices; (3) a public involvement program; (4) implementation mechanisms; (5) a monitoring program; and (6) a program review, evaluation and updating process.

1. Problem Assessment

The problem assessment is divided into two discrete categories which correspond to the implementation concepts of prevention and correction or restoration.

a. Problem Prevention

The sensitive geographic areas that are potential water quality hazards are identified at various BLM planning levels.

For these areas, recommended management is designed to protect water quality and minimize the potential adverse water quality impacts from resource management actions. BLM will identify such sensitive areas on maps of appropriate scale and report to WQB along with existing and recommended management on each area.

b. Problem Correction

The BLM, with assistance from the Water Quality Bureau, will implement the following problem/solution process as a strategy for the management of nonpoint sources of pollution:

1. Annually identify and update existing and potential nonpoint source problems;
2. develop a priority list based on problem severity;
3. select and adopt Best Management Practices which can be applied to correct identified problems;
4. establish realistic abatement schedules for the identified problems; and
5. report annually accomplishments to the WQB and EPA.

The BLM and WQB mutually agree to the following timetable of activities:

March 31	April 1—May 30	June 1—July 31	August 1	October 15
Individual Agency reports due to WQB including:	WQB Analysis of multi-agency reports	Joint Agency meeting, objectives including:	WQB updates statewide 208 report	WQB completes 208 report update & feedback to agencies
1. Problem identification and causes 2. Problem prioritization 3. Selected BMPs 4. Abatement schedule 5. Report of accomplishments		1. Discussions of Agency priorities and solutions 2. Review of reports 3. Other (followed by joint field investigations of top priority problems)		

*Agency report and meetings would include BLM and other 208 cooperation agencies.

2. Best Management Practices

Nonpoint source water quality problems are best contolled through the implementation of sound resource management practices, commonly referred to as "Best Management Practices" (BMPs). The BLM will attempt to meet or exceed the prescribed state practice criteria and standards as incorporated in the Statewide Water Quality Management Plan.

3. Public Involvement

The Clean Water Act emphasizes the need to insure public involvement in the development and implementation of the standards, plans, and programs which it mandates. Section 101(e) of this act describes the basic framework for public participation which is further delineated in federal regulations (40 CFR 105). The Federal Land Policy and Management Act of 1976 (PL 94-579) and BLM Regulations for Planning (43 CFR 1601.3) also provide for public involvement throughout the planning/decision making and review process. Through this public involvement process, any decisions relating to water quality will be open to the public and subject to review. comment, and appeal.

4. Implementation Mechanisms

The BLM and WQB agree that the implementation of BMPs will be made in conjunction with BLM land management decisions for lands and resources under BLM jurisdiction (currently referred to a Management Framework Plans or Resource Management Plans). These decision documents incorporate an initial water quality management plan which will be periodically revised, updated, and refined during the ongoing, continuous planning process. These decision documents will be provided to the WQB for timely review in accordance with the BLM final regulations for planning consistency with state agency plans, programs and policies (43 CFR 1601.4).

5. Monitoring

Monitoring of Best Management Practices will be performed by BLM to meet two objectives. The first objective is to determine the degree to which BMPs are being implemented in field operations when compared to stated water quality protection plans in the management decision document (MFP or RMP)(43 CFR 1601.5-9). The second monitoring objective is related to the effectiveness of prescribed BMPs. As funds are available, BMPs will be evaluated to determine if they are having the desired and expected effect on water quality and to guide decisions on possible modifications. This evaluation will be coordinated with WQB water quality monitoring programs to the extent possible.

6. Program Review, Evaluation and Updating

The BLM and WQB agree to meet annually (as discussed under III, B, I, b above) to evaluate the program and the progress being made. At this annual meeting, the following items (not all-inclusive) will be addressed:

a. All available monitoring information will be reviewed to determine if State water quality management plan goals are being met and to prescribe procedures for more effective program implementation. The BLM will present and discuss land use planning and activity planning commitments which may incorporate BMPs. In addition, the BLM monitoring program will be reported biannually to EPA (305-b) through the WQB, or as mutually agreed.

b. Any proposed revisions or additions of BMPs will be provided prior to the annual meeting by the WQB or other designated state agency for BLM review and comment.

c. Constraints of manpower and funds on immediate and effective program implementation will be discussed.

C. Coordination

The BLM and WQB mutually agree to assign a contact person within each agency to coordinate the execution of this memorandum of understanding.

D. Designation

On the basis of this memorandum of understanding, WQB will recommend that the Governor formally designate BLM as the implementing agency for non-point source pollution control on federal lands under its jurisdiction.

SECTION IV. LIMITATIONS, AMENDMENTS AND TERMINATIONS

A. Limitations

Nothing in this agreement will be construed as limiting or affecting in any way the authority or legal responsibility of the BLM or the state, or as binding either the BLM or state to perform beyond the respective authority of each, or to require either agency to assume or expend any sum in excess of appropriations available.

Nothing in this agreement will be construed as requiring the BLM to complete land use planning documents (Resource Management Plans) ahead of the current schedule and as funded. Any Best Mangement Practices which may be implemented without completion of such plans may be incorporated into individual resource activity plans and environmental assessment documents.

Each and every provision of this supplement is subject to the laws of the State of Montana and the laws of the United States, and the regulations of the Secretary of the Interior.

B Effective Date, Amendments and Termination

This Memorandum of Understanding Supplement shall become effective as soon as signed by the parties hereto and shall continue in force unless formally terminated by either party after thirty (30) days' notice in writing to the other of his intention to do so.

Additional amendments or appendices to this agreement may be proposed by either party and shall become effective upon approval by both parties.

Approved:

BUREAU OF LAND MANAGEMENT, USDI

Mar 31 1980

Signature Date

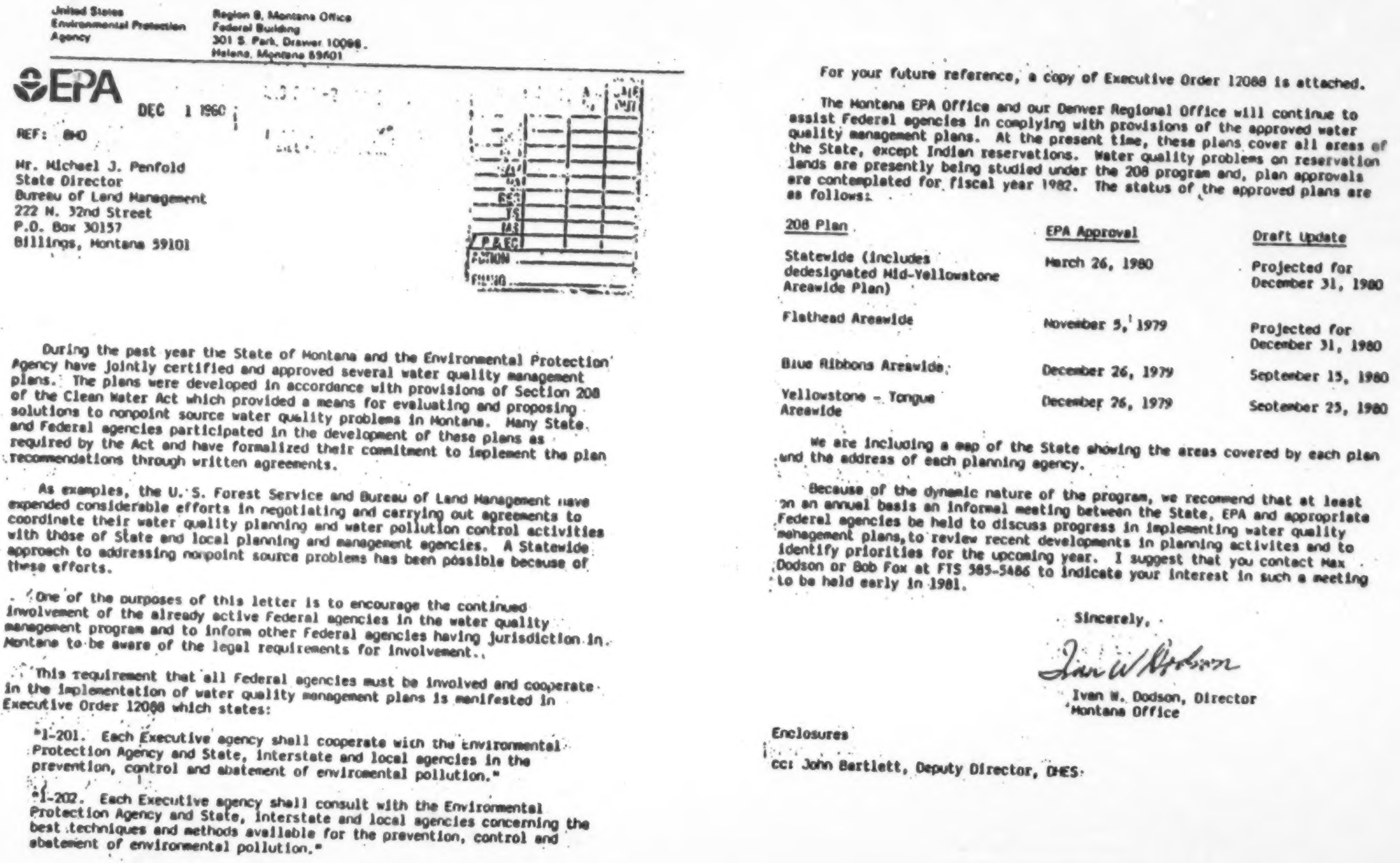
Approved:

MONTANA DEPARTMENT OF HEALTH AND ENVIRONMENTAL SCIENCES, WATER QUALITY BUREAU

AKnight April 22-1980

Signature Date

APPENDIX B



United States
Environmental Protection
Agency

Region 8, Montana Office
Federal Building
301 S. Park, Drawer 10096
Helena, Montana 59601

DEC 1 1980

REF: 8HO

Mr. Michael J. Penfold
State Director
Bureau of Land Management
222 N. 32nd Street
P.O. Box 30157
Billings, Montana 59101

During the past year the State of Montana and the Environmental Protection Agency have jointly certified and approved several water quality management plans. The plans were developed in accordance with provisions of Section 208 of the Clean Water Act which provided a means for evaluating and proposing solutions to nonpoint source water quality problems in Montana. Many State and Federal agencies participated in the development of these plans as required by the Act and have formalized their commitment to implement the plan recommendations through written agreements.

As examples, the U. S. Forest Service and Bureau of Land Management have expended considerable efforts in negotiating and carrying out agreements to coordinate their water quality planning and water pollution control activities with those of State and local planning and management agencies. A Statewide approach to addressing nonpoint source problems has been possible because of these efforts.

One of the purposes of this letter is to encourage the continued involvement of the already active Federal agencies in the water quality management program and to inform other Federal agencies having jurisdiction in Montana to be aware of the legal requirements for involvement.

This requirement that all Federal agencies must be involved and cooperate in the implementation of water quality management plans is manifested in Executive Order 12088 which states:

> "1-201. Each Executive agency shall cooperate with the Environmental Protection Agency and State, interstate and local agencies in the prevention, control and abatement of envirocmental pollution."
>
> "1-202. Each Executive agency shall consult with the Environmental Protection Agency and State, interstate and local agencies concerning the best techniques and methods available for the prevention, control and abatement of environmental pollution."

For your future reference, a copy of Executive Order 12088 is attached.

The Montana EPA Office and our Denver Regional Office will continue to assist Federal agencies in complying with provisions of the approved water quality management plans. At the present time, these plans cover all areas of the State, except Indian reservations. Water quality problems on reservation lands are presently being studied under the 208 program and, plan approvals are contemplated for fiscal year 1982. The status of the approved plans are as follows:

208 Plan	EPA Approval	Draft Update
Statewide (includes dedesignated Mid-Yellowstone Areawide Plan)	March 26, 1980	Projected for December 31, 1980
Flathead Areawide	November 5, 1979	Projected for December 31, 1980
Blue Ribbons Areawide	December 26, 1979	September 15, 1980
Yellowstone - Tongue Areawide	December 26, 1979	September 25, 1980

We are including a map of the State showing the areas covered by each plan and the address of each planning agency.

Because of the dynamic nature of the program, we recommend that at least on an annual basis an informal meeting between the State, EPA and appropriate Federal agencies be held to discuss progress in implementing water quality management plans, to review recent developments in planning activites and to identify priorities for the upcoming year. I suggest that you contact Max Dodson or Bob Fox at FTS 585-5486 to indicate your interest in such a meeting to be held early in 1981.

Sincerely,

Ivan W. Dodson

Ivan W. Dodson, Director
Montana Office

Enclosures

cc: John Bartlett, Deputy Director, DHES

U.S. Department of the Interior
Office of Surface Mining

B-66-a

NOTE: See letter of support from Secretary William Clark, U.S. Department of the Interior, printed in the section on the U.S. Geological Survey.

DRAFT

APERRY - NOV 2 1985

OFFICE OF SURFACE MINING STRATEGY ON NONPOINT SOURCE POLLUTION

Background and Authority

The Office of Surface Mining (OSM) was established by the enactment of Public Law 95-87, the Surface Mining Control and Reclamation Act of 1977 (SMCRA) when signed by the President on August 3, 1977. OSM, therefore, is the newest Bureau in the Department of the Interior. Section 102 of the Act states that among the purposes are: "a) establish a nationwide program to protect society and the environment from the adverse effects of surface coal mining operations"; "d) assure that surface coal mining operations are so conducted as to protect the environment"; "g) assist the States in developing and implementing a program to achieve the purposes of this Act"; "h) promote the reclamation of mined areas left without adequate reclamation prior to the enactment of this Act and which continue in their unreclaimed condition, to substantially degrade the quality of the environment, prevent or damage the beneficial use of land or water resources, or endanger the health or safety of the public"; and "m) wherever necessary, exercise the full reach of Federal constitutional powers to ensure the protection of the public interest through the effective control of surface coal mining operations." All of these provisions relate to environmental protection and control in general, including nonpoint source pollution (NPS). Since the passage of the Act 25 States have passed their own legislation and have primacy in the enforcement of coal mining operations. A total of 9 States have not passed legislation, and in those States the Federal Government is responsible for active operations as well as abandoned mine lands (AML) activities.

Problem Assessment

Problem Identification

SMCRA has numerous references in various parts of the Act to the protection of the hydrologic system and uses terms such as: "hydrologic regime"; "probable cumulative impact... on the hydrologic balance..."; "minimize the disturbances to the prevailing hydrologic balance..."; and "probable hydrologic consequences...." In order to implement these aspects of the Act through regulations, certain requirements are imposed upon operators in the permit application and reclamation plan requirements, as well as upon the regulatory authorities in the review of the applications.

All active surface coal mining operations (Title V of SMCRA) are required to protect both the quality and quantity of the surface and ground water systems. With regard to surface water, present regulations require the channeling of all runoff through sedimentation ponds and treatment facilities (if needed). This essentially results in changing NPS pollution to a point source, and facilitates abatement of problems and required inspection and enforcement activities. These regulations are presently in litigation.

Abandoned Mine Land (AML) programs (Title IV of SMCRA) also consider water quality and quantity as a high priority. Section 403(3) states that the AML fund may be used for the "the restoration of land and water resources and the environment previously degraded by adverse affects of coal mining practices including measures for the conservation and development of soil, water (excluding channelization), woodland, fish and wildlife, recreation resources, and agricultural productivity." States with primacy submit projects to OSM for approval of funding. The AML areas of the U.S. are among the major areas of concern with regard to NPS pollution.

Monitoring and Data Maintenance

All aspects of hydrology, including point source and nonpoint source pollution is monitored on a State by State basis. Oversight reports are prepared and problem areas addressed. Recommendations are made for problem resolution. For subsequent oversight reports, followups are made on previously identified problems to ensure remedial action has been taken.

Research and Development

The Office of Surface Mining has limited research and development programs for both active mining operations and abandoned mined lands. These research funds include all aspects of reclamation, however; hydrology has been given a very high priority, and a considerable portion of the funding is dedicated to hydrology. This includes water quality and quantity for both surface and ground water. A major research effort is currently underway to evaluate alternatives to sediment ponds, considering the current state-of-the-art for sediment control technologies. Some of the alternatives may be nonpoint source control methodologies.

Program Implementation

The Office of Surface Mining has recently undergone a revision of all regulations. By September 30, 1983, all final rules were in effect, including those regarding hydrology. State programs were submitted to OSM for approval during the past three years, and most States have primacy for the regulation of coal mining. The results of these efforts is a program that is up-to-date with regulations that are state-of-the-art with regard to technology.

Program Planning, Development and Implementation

Because of the wide diversity in hydrologic, geologic, climatic, soils and vegetative characteristics in the primacy States, the program planning, development and implementation of any hydrology programs are the responsibilities of the individual States. Assessments must be made on a State by State basis as to the severity of the nonpoint pollution problem, and the development of a program plan for abatement. In most States, however, the regulatory authority for coal mining is not the lead State agency for water pollution control and can only act as a cooperator to the lead agency. It is the responsibility of the lead agency within a given State (usually an EPA primacy agency) to perform program planning, development and implementation.

Targeting

Targeting is also the responsibility of the above mentioned lead State agency.

Technical Assistance and Education

A system is presently in place whereby technical assistance and education can be provided to State governments when requested. OSM has recently conducted workshops on various subjects for the purpose of providing both technical assistance as well as education. A series of courses for inspectors is presently being developed, one of which is hydrology.

BMP Emplacement

Because both Federal and State regulations have been recently revised and/or adopted, BMP provisions are state-of-the-art and have been incorporated into both programs, with regard to hydrology.

Incentives and Compliance

Compliance by operators for all OSM regulations, and counterpart State regulations is through the permitting and inspection process. The system works well for OSM's areas of responsibility and authority.

Coordination

Coordination of hydrology programs on the State level for coal mining programs is the responsibility of the State primacy agency with the lead State agency for water pollution control. The degree and effectiveness of the coordination varies considerably from State to State. On the Federal level, OSM has primary responsibility to coordinate with EPA regarding hydrology programs covered by the Clean Water Act.

In addition to coordination with EPA, OSM has established working relationships, and in some cases interagency agreements with USDA, DOE, DOD (Corps of Engineers) and Department of Labor (MSHA). Within the Department of the Interior, OSM cooperates with many other Bureaus with regard to program activities, particularly the Geological Survey, the Bureau of Mines, the Bureau of Land Management, and the Fish and Wildlife Service. Every effort is made to coordinate program activities and to avoid duplication. As examples, the Geological Survey provides hydrologic data, and the Bureau of Mines provides mining statistics.

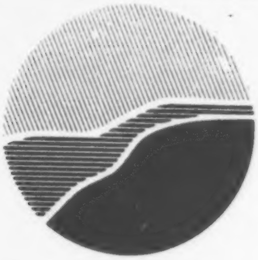
Resources

Generally speaking, present State resources are adequate to provide problem assessment and program planning and implementation of nonpoint source pollution programs should they be needed. Likewise, OSM resources are such that the subject could be incorporated into existing organizational structures without significant adverse effects.

Program Evaluation and Oversight

Sections 504(b), 517(a) and 521(b) of the Surface Mining Control and Reclamation Act of 1977 (SMCRA) provide the authority, and in fact require the Office of Surface Mining to evaluate State approved programs. Annual reports are submitted to Congress for each State. Should the evaluation show that the States are not performing their program functions adequately, OSM has the authority to take over all or part of the program. Such action has been taken in the States of Tennessee and Oklahoma effective October 1, 1984.

U.S. Department of Transportation
Federal Highway Administration



B-71-a

U.S. Department
of Transportation

**Federal Highway
Administration**

400 Seventh St., S.W.
Washington, D.C. 20590

October 26, 1984

In Reply Refer To:
HEV-20

Jack E. Ravan, Chairman
Federal-State-Local Nonpoint
Source Task Force
U.S. Environmental Protection Agency
Washington, D.C. 20460

Dear Mr. Ravan:

Over the past six months, I have been a Task Force member to help develop approaches to managing nonpoint sources that would strengthen and improve our mutual efforts to address these problems at all levels. In addition, the Federal Highway Administration has developed a draft strategy outlining its current and continuing nonpoint source management activities (copy enclosed).

I believe the National Nonpoint Source Policy developed by our Task Force will serve to focus the appropriate level of attention on this important aspect of water pollution control, especially in those programs and geographic areas where the adverse impacts are the most severe. I join with you in recommending that this policy statement be presented by the Task Force to Mr. Ruckelshaus in December.

Sincerely yours,

Larry Isaacson, Member
Federal-State-Local Nonpoint
Source Task Force
Office of Environmental Policy

Enclosure

10-22-84

DRAFT
FEDERAL HIGHWAY ADMINISTRATION
NON-POINT SOURCE
STRATEGY

PREAMBLE

PROBLEM ASSESSMENT

PROGRAM IMPLEMENTATION

- I Program Requirements
- II Program Planning
- III Design
- IV Construction
- V Targeting
- VI Technical Assistance/Education

INCENTIVES AND COMPLIANCE

COORDINATION

RESOURCES

PROGRAM EVALUATION AND OVERSIGHT

SUMMARY

10-22-84

DRAFT FEDERAL HIGHWAY ADMINISTRATION
NON-POINT SOURCE STRATEGY

PREAMBLE

The Clean Water Act established the national objective of restoring and maintaining the chemical, biological, and physical integrity of the Nation's waters. In an attempt to further capitalize upon the investments made in point source pollution control and to more fully achieve the objective of the Clean Water Act a national non-point source (NPS) policy was developed by an intergovernmental task force at the request of the Environmental Protection Agency (EPA).

The Federal Highway Administration (FHWA) was represented on this task force and also served as a representative of the Department of Transportation (DOT).

In support of the national NPS task force's policy recommendation, each agency was charged with developing an agency-wide strategy for implementing its program.

This document outlines FHWA's existing program for water pollution control as mandated by Sections 109(g) and (h) of 23 USC; as codified in Part 650, Subpart B of Title 23 CFR, and as is appropriate to comply with other Federal laws including The Clean Water Act, Coastal Zone Management Act, Safe Drinking Water Act, and the National Environmental Policy Act.

This strategy has been organized in a format recommended by EPA and the National NPS Pollution Task Force to assure consistency between agencies.

PROBLEM ASSESSMENT

As stated in the Preamble, the FHWA currently incorporates within its program a process to consider the effects of Federal-aid highway projects on water quality. Water quality includes both surface and ground water as well as point and non-point source pollution. This process has been operational for many years and is successful.

PROGRAM IMPLEMENTATION

I Program Requirements

Section 109 (Standards) of Title 23, USC "Highways" contains two requirements which serve as a basis for the FHWA water quality program, not withstanding the requirements of other Federal laws and regulations. These requirements are as follows:

Title 23 USC Highways

Section 109(g)

> "The Secretary [of Transportation] shall issue within 30 days of the enactment of The Federal Aid Highway Act of 1970 guidelines for minimizing possible soil erosion from highway construction. Such guidelines shall apply to all proposed projects with respect to which plans specifications and estimates are approved by the Secretary after the issuance of such guidelines." [These guidelines were issued on 9-25-74].

Section 109(h)

> "...adverse economic, social, and environmental effects relating to any proposed project on any Federal-aid system have been fully considered in developing such project, and that the final decisions on the project are made in the best overall public interest, taking into consideration...
>
> (1) air, noise, and water pollution;
>
> (2) destruction or disruption of man made and natural resources,"... (emphasis added)

The legal requirements are further refined and have been codified in 23 CFR 650, Subpart B, Erosion and Sediment Control on Highway Construction Projects.

Section 650.203 (Policy) clearly sets forth the policy of the FHWA as follows:

> "It is the policy of the Federal Highway Administration (FHWA) that Federal-aid highways and highways constructed under the direct supervision of FHWA shall be located, designed, constructed and operated according to standards that will minimize erosion and sediment damage to the highway and adjacent properties and abate pollution of surface and ground water resources."

DOT Order 5610.1C (9-18-79) titled Format and Content of Environmental Impact Statements.

9. Standards as to Noise, Air, and Water Pollution. The statement shall reflect sufficient analysis of the effects of the proposed action on attainment and maintenance of any environmental standards established by law or administrative determination (e.g. noise, ambient air quality, water quality), including the following documentation:

a. With respect to water quality, there should be consultation with the agency responsible for the State water pollution control program as to conformity with standards and regulations regarding storm sewer discharge, sedimentation control, and other non-point source discharges..."

II Project Planning

Every project for which Federal-aid funding will be sought by a State (highway or transportation agency) must be evaluated to determine the level of environmental assessment that will be required. Such an evaluation includes the identification of all water bodies within the project's zone of potential environmental impact.

Subsequent to the resource identification, an evaluation is made to determine the effect of the highway project on the water body(ies). This process includes construction impacts; primarily erosion control, but also impacts such as pollution potential from on site asphalt plants etc. Operational impacts are also evaluated. These include, surface runoff, and the potential for water pollution from herbicides, fertilizer, de-icing materials etc.

The planning process includes direct contact with all interested parties, including Federal, State and local agencies and governments as well as individual citizens or organized citizen groups. For those projects where the project is expected to have a significant impact on the environment (either as a result of NPS pollution or for any other reason) a draft environmental impact statement (EIS) will be prepared and circulated to all of the above interests. Comments received must be considered and addressed in a final EIS. For those projects where the significance of the project on environmental grounds is unknown or not defined, an environmental analysis (EA) must be prepared and made available to the public for comment. If significant impacts are identified, an EIS will be prepared; if no significant impacts are identified, a Finding of No Significant Impact (FONSI) is prepared to document the process that was undertaken.

There is a third classification of projects, known as Categorical Exclusions (CE). These projects, by their very nature, seldom, if ever, have been found to cause significant environmental impacts. It remains a responsibility of the FHWA to insure itself that each project classified as a CE is reviewed to look for unanticipated adverse impacts. NPS pollution would be one of these.

When any project (EIS, EA, CE) identifies an adverse environmental impact, regardless of the impact's significance, an attempt is made to eliminate or reduce the severity of the impact. For Federal-aid highway projects any such action is known as "mitigation." Mitigation activities include but are not limited to Best Management Practices (BMPs) as used in the field of water pollution control.

The planning phase ends with the acceptance of the appropriate environmental document by FHWA. Mitigation BMP activities contained in the documents are considered as binding commitments that will be incorporated into the project.

III Design

Mitigation commitments of a structural nature developed during the planning phase are refined and included in the project plans and specifications. Both FHWA and State personnel have the responsibility to insure that mitigation commitments in the environmental document are included in the project plans and specifications. The following Section of 23 CFR 650 sets forth the applicable requirements.

Section 650.207 Plans, specifications and estimates.

(a) Emphasis shall be placed on erosion control in the preparation of plans, specifications and estimates.

(b) All reasonable steps shall be taken to insure that highway project designs for the control of erosion and sedimentation and the protection of water quality comply with applicable standards and regulations of other agencies.

IV Construction and Operations

Section 650.209 of 23 CFR sets forth the FHWA construction requirements for water pollution control as follows:
Section 650.209 Construction.

(a) Permanent erosion and sediment control measures shall be installed at the earliest practicable time consistent with good construction practices.

(b) Temporary erosion and sediment control measures shall be coordinated with permanent measures to assure economical, effective and continuous control throughout the construction phase. Temporary measures shall not be constructed for expediency in lieu of permanent measures specified in the contract.

(c) Erosion and sediment control measures shall be adequately maintained to perform their intended function during construction of the project.

(d) Erosion and sediment control measures necessary because of contractor negligence, carelessness, or failure to install contract measures as scheduled shall be installed at no cost to Federal-aid funds.

(e) Pollutants used during highway construction or operation and material from sediment traps shall not be stockpiled or disposed of in a manner which makes them susceptible to being washed into any watercourse by runoff or highway water. No pollutants shall be deposited or disposed of in watercourses.

Future Revision

The FHWA is proposing to revise 23 CFR 650, Subpart B, Erosion and Sediment Control on Highway Construction Projects. The revision would adopt as FHWA policy section 208.01 and Section 208.03 of a document entitled "Guide Specifications for Highway Projects," which has been approved by the American Association of State Highway and Transportation Officials (AASHTO). The proposed revisions essentially reflect measures which are being taken in order to minimize erosion and sediment damage in the course of highway construction.

Publications of AASHTO have a significant influence on the highway construction policies of State and local agencies. Because it is to the advantage of all parties to use a single policy on highway construction procedures regardless of funding source (i.e., Federal, State, or local), the specifications for water pollution control contained in the AASHTO publication were reviewed for application on Federal-aid projects.

The FHWA has determined that the AASHTO Specifications are adequate and appropriate for managing and enforcing erosion and sediment control activities on Federal-aid projects. By proposing to adopt the AASHTO Specifications, a single policy for State and Federal highway projects would be in effect, and would help to insure that soil erosion is in fact minimized.

The AASHTO Specifications incorporate the essential requirements for erosion and sediment control during construction that are contained in present 23 CFR 650.209. The provisions of 23 CFR 650.209 (a), (b) and (c) are essentially unchanged in the AASHTO Specifications. The provisions of present 23 CFR 650.209 (d), which do not allow Federal-aid funds to be used for erosion and sediment control measures made necessary because of faulty work of the contractor, are incorporated in the AASHTO Specifications by disallowing payment to the contractor for this work. The provisions of present 23 CFR 650.209 (e), which restrict waste disposal methods, are incorporated in the AASHTO Specifications by requiring a disposal plan for this work to be submitted by the contractor for advance approval.

The AASHTO Specifications, in addition, contain procedures for implementing these provisions: (1) by requiring schedules and methods of erosion control to be accepted by the engineer before work is started and (2) by giving the engineer authority to limit and direct the contractor's operations so as to prevent water contamination.

It is proposed that the AASHTO Specifications be included as an Appendix to 23 CFR 650, Subpart B. Section 650.207 of the existing regulation would be revised to require inclusion of appropriate erosion and sediment control measures in a project's plans, specifications and estimates; and to include the reference to Sections 208.01 and 208.03 of the AASHTO Specifications with the requirement that policies and procedures of agencies subject to this regulation must meet or exceed the AASHTO Specifications.

V Targeting

The FHWA and the States (highway and transportation agencies) are currently responsive to the priority NPS water bodies as identified by the responsible State water quality agencies.

VI Technical Assistance/Education

The FHWA has in place an extensive technology transfer program. There are twenty-six Regional Technical Assistance Centers throughout the country. These centers are normally found at major universities and provide training and technical support to local officials and agencies. Through the National

Highway Institute, FHWA promotes and conducts training programs with State and local highway agencies. In the past, through its Demonstration Projects Division, FHWA has sponsored two programs: Water Quality Monitoring for Construction Projects and Monitoring and Analysis of Highway Stormwater Runoff.

INCENTIVES AND COMPLIANCE

As noted from existing Federal highway law and regulations, consideration of water pollution impacts are a prerequisite to approval by FHWA of Federal-aid funding. Enforcement of these requirements is a primary responsibility of each FHWA Division Office (one in each of the 50 states plus Puerto Rico and the District of Columbia), and is carried out in the same way as other Federal requirements. These include environmental document approval, approval of plans, specifications and estimates, and project acceptance reports, among others.

COORDINATION

Water pollution control concerns of FHWA are of primary concern during the project planning and development stages. Extensive liaison and coordination is maintained between the State highway and/or transportation agency and those other State agencies with a primary responsibility for water pollution control. Coordination with EPA at the Federal level is obtained through the environmental review process. The FHWA participates on any intergovernmental committee, council, or other advisory body where its interests are of concern and would benefit from participation.

RESOURCES

The FHWA maintains a nationwide staff of highway professionals in its Divisions (52), Regions (9) and Headquarters offices. Staff professions concerned with water pollution include civil engineers, ecologists, and environmental specialists. Each State has its own professional staff concerned with the same issues. Where staff resources are limited, the services of outside specialists can be called upon from universities and consultants as appropriate.

PROGRAM EVALUATION AND OVERSIGHT

The FHWA has an operational program of program management reviews for all aspects of its program. Each organizational level of the FHWA has a role in the review program. The FHWA's monitoring of water pollution control activities of State highway agencies primarily takes place at the Division Office level. The Divisions have established procedures for design and construction monitoring of State activities at the project level. State compliance with FHWA water pollution control policies is monitored regularly by means of environmental document reviews, project design reviews, and on site project inspections during construction.

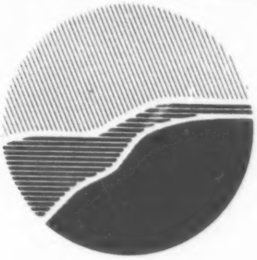
Additional monitoring is carried out by FHWA Headquarters and Regional Offices through their EIS reviews and regular program reviews. Specifically, compliance with FHWA's policy on Erosion and Sediment Control on Highway Construction Projects is reviewed regularly by Headquarters and Regional Offices as a part of the continuirg Nationwide Drainage Review Program which was established in 1978. Washington Headquarters also periodically conducts environmental program reviews. The last such review where water quality issues were discussed was in 1982/83.

SUMMARY

The FHWA provides funding assistance to each State (highway or transportation department) through formula allocations. Each State plans, designs, and constructs, its own highway projects, requiring FHWA approval at key points in the process. Federally-aided highway projects are those located on a previously approved and designated Federal-aid highway system (Interstate, Primary, Secondary, Urban). There are several authorized additions to these systems including off-system bridges, safety projects, and disaster-relief projects.

All federally-aided highway projects must comply with existing rules and regulations regarding environmental impact analysis and water quality impact. Adverse impacts to water quality, including non-point source pollution, are evaluated in the context of all other adverse and beneficial impacts of each project in coordination with public and private interests. Final decisions are made by FHWA program managers which best reflect the overall public interest and satisfy the need for a safe, fast, and efficient transportation system while minimizing, to the extent practicable, adverse impacts to the environment.

U.S. Army Corps of Engineers



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DEPARTMENT OF THE ARMY
OFFICE OF THE CHIEF OF ENGINEERS
WASHINGTON, D.C. 20314-1000

23 OCT 1984

WSC No. 3
10-26-84
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REPLY TO
ATTENTION OF:

DAEN-CWP-P

Mr. Jack E. Ravan
Chairman
Federal-State-Local NPS Task Force
Office of Water (WH-556)
U.S. Environmental Protection Agency
Washington, D. C. 20460

Dear Mr. Ravan:

Over the past six months, I and my staff have attended the NPS Task Force meetings to help develop approaches to managing nonpoint sources that would strengthen and improve our mutual efforts to address these problems at all levels. In addition, the Corps of Engineers has developed a strategy outlining ongoing and future nonpoint source management activities (Enclosure 1).

I believe the National Nonpoint Source Policy developed by our Task Force will help all of us better coordinate our approaches and programs. Upon examination of the policy, my staff has noted an inconsistency which we have taken the liberty of correcting (Enclosure 2) and which I will be prepared to discuss at the November meeting. I join with you in recommending that this policy statement be presented by the Task Force to Mr. Ruckelshaus in December.

Sincerely,

John F. Wall
Major General, U. S. Army
Director of Civil Works

Enclosures

Please note this is — for the Corps — the rest of the Army and DOD) will be getting their program together —
John

CORPS OF ENGINEERS
IMPLEMENTATION STRATEGY
OF THE EPA NATIONAL POLICY
ON
NONPOINT SOURCE POLLUTION

23 October 1984

PREAMBLE

It is recognized that the Clean Water Act establishes the objective of restoring and maintaining the chemical, biological and physical integrity of the Nation's waters. In an attempt to further capitalize upon the investments made in point source pollution control and to more fully achieve the objective of the Clean Water Act, a national nonpoint source pollution (NPS) policy has been adopted by EPA. The objective of the NPS policy is to support and accelerate the development and implementation of NPS management programs through the following actions;

1. further refinement/assessment of NPS problems;
2. the establishment of an institutional framework(s) for intergovernmental NPS programs;
3. delineation of appropriate federal, state, areawide, local and/or private sector agency roles;
4. support for an increased level of effort and emphasis at all levels of government;
5. a schedule for program development and an implementation strategy for each participating agency;
6. the creation of a working partnership within the federal, state, areawide, local and private communities to address NPS problems;
7. the development and assessment of Best Management Practices (BMP's) and
8. the recognition that NPS is different from point sources, thus management programs must be based upon site specific conditions.

In keeping with the spirit of this policy and in recognition that its study activities are directly tied to Congressional authorizations, the Corps of Engineers has examined its programs and determined that the NPS policy could affect certain civil works activities including: the planning, design and operation of its reservoir projects; the management and leasing of project lands; the regulatory program, primarily Section 404 activities; the research and development program; and, to a lesser extent, those Superfund activities conducted in cooperation with EPA.

Of immediate concern to the Corps of Engineers is the operation and management of its reservoirs, particularly in relation to state implementation of programs for NPS. For the purposes of this Implementation Strategy, the Corps of Engineers will refer to its dams as NPS pollution sources. However, the Corps of Engineers does not concede that its dams are NPS pollution sources as a matter of law under the Clean Water Act. Because of its extensive expertise in the construction, operation and maintenance of dams and reservoirs the Corps of Engineers will work closely with respective federal, state, areawide, local and/or private sector interests to develop strategies that will not impede Corps of Engineers management of these facilities for the purposes for which they were authorized consistent with any NPS criteria, e.g., the incorporation of reasonable best management practices into the operation and design of these facilities. Thus, with this background the remainder of the Corps of Engineers implementation strategy will focus upon the activities discussed above and will include key activities described in the national NPS policy statement of 20 September 1984.

I PROBLEM ASSESSMENT

The policy establishes the lead role of the state, areawide, local and private sector agencies in the problem assessment phase of any proposed NPS pollution program. In keeping with the objectives of the NPS policy, the Corps of Engineers believes it can provide technical and planning assistance under the authority of Section 22 of the Water Resources Development Act of 1974 to the responsible lead agency in dealing with this problem assessment phase. The Corps of Engineers presently has an institutionalized planning process which has (e.g., the Lake Erie Wastewater Management Study, Acid Mine Drainage Studies and various Urban Studies) and could easily be adopted to address, anew, the problem of NPS pollution. Additionally, the years of experience in dealing with water resource problems, traditionally conducted on a watershed basis and often utilizing the type(s) of hydrologic and water quality analyses anticipated for many NPS investigations lends further credibility to the Corps of Engineers expertise in this area. Upon the completion of many of our projects, particularly reservoir projects, routine water quality and hydrologic sampling is continued along with analyses of adjacent land use practices thereby enabling the project to be operated as authorized (e.g., an annual water quality report is required summarizing activities at reservoir projects). Originally, much of the data collected were traditional in nature; however, increasingly the situation has demanded that more xenobiotic compounds (pesticides, herbicides and heavy metals) be sampled. Finally the Corps of Engineers maintains an extensive research and development program designed to address questions related to mission oriented problems experienced by its field (Distict and Division) offices. Some of the data generated within the research and development program may be directly applicable to problems likely to be experienced in assessing NPS pollution and could prove to be useful. Therefore, the Corps of Engineers involvement in the problem assessment phase will include assistance in problem identification, monitoring and research and development.

PROBLEM IDENTIFICATION

The COE will take the following actions to the maximum extent practicable:

o Support federal,state, areawide, local and/or private sector agencies in their efforts to identify and assess NPS pollution problems.

o Participate in the formulation of screening criteria whereby particular waterbodies are targeted for protection/rehabilitation (i.e., Special Area Management Plans) based upon federal, state, areawide, local and/or private sector priorities.

o Review and provide to the federal, state, areawide, local and/or private sector agencies involved the appropriate water quality and hydrologic data generated during Congressionally authorized feasibility investigations conducted within watersheds under consideration for NPS control.

o Provide technical assistance in the hydrologic evaluation of various sized watersheds, e.g., types of parameters to be sampled, sampling schemes, statistical analyses, computer simulations etc.

o Provide technical assistance in the analysis of water quality resulting from various alternative measures (BMP´s) designed to alleviate or reduce contributions of NPS pollution into receiving waters.

o Continue to act in a consultative capacity to federal, state, areawide, local and/or private sector agencies as the NPS programs evolve.

MONITORING AND DATA MANAGEMENT

The COE will take the following actions to the maximum extent practicable;

o Support federal, state, areawide, local and/or private sector agencies in their efforts to develop a basic

NPS monitoring plan.

- Make an effort to sample parameters that would not only support the basic purposes of the project and/or installation but that would also provide valuable input into federal, state, areawide, local and/or private sector programs.

- Provide to the responsible agencies the results of the various water quality and hydrologic sampling conducted at Corps of Engineer projects.

- Establish and maintain close coordination with existing and proposed EPA databases insuring the incorporation of Corps of Engineer project water quality and hydrologic data.

- Participate in any annual NPS data coordination meetings.

RESEARCH AND DEVELOPMENT

The COE will take the following actions to the maximum extent practicable;

- Current research and development activities will be examined to determine which program(s) have elements which would lend themselves to increasing our knowledge of NPS problems and their management, e.g.;

    - baseline data from the Environmental and Water Quality Operational Studies (EWQOS) Program,

    - hydrologic and water quality research results,

    - sediment and chemical control technology and

    - watershed assessment techniques such as that conducted using geographic information systems.

- As federal, state, areawide, local and/or private sector NPS programs evolve and problems/questions arise, specific research areas could be tailored to address NPS solutions at Corps of Engineers projects with the understanding that these solutions may have applicability to several levels of government.

- Increased coordination among the research and development elements of the federal, state, areawide local and/or private sector community will provide a more balanced approach to problems likely to surface.

II PROGRAM IMPLEMENTATION

The Corps of Engineers will, as resources allow, continue to provide technical assistance to the federal, state, areawide, local and private sector agencies implementing NPS management programs. It must be kept in mind, however, that the Corps of Engineers´ ability to render this assistance is directly related to existing and future authorizations that direct the agency to participate in such programs. The planning, development and implementation of any NPS management program will be the responsibility of the lead agency in question; the Corps of Engineer´s participation would be at the lead agency`s request. The Corps of Engineers could make a valuable technical contribution; in fact, the area of technical assistance and education is the major topic area in which the Corps of Engineers could contribute significantly to NPS program implementation.

TECHNICAL ASSISTANCE AND EDUCATION

The COE will take the following actions to the maximum extent practicable;

COE ACTION

o Include in its planning, policy, operation and maintenance and construction regulations language that reflects the principles of the national NPS policy such that planned and completed projects are in conformance with federal, state, areawide, local and/or private sector NPS criteria to the fullest extent practicable.

o Regarding reservoir water quality, two major problems exist, (1) the water quality within the reservoir and (2) the water quality downstream of the reservoir. The Corps of Engineers will work closely with the respective federal, state, areawide, local and/or private sector agencies to develop strategies that will recognize this two phased problem and will be compatible with Corps management of these projects for the purposes for which they were authorized while being responsive to the principles of the NPS policy and criteria established by the agency(ies) responsible for water quality management.

o Continue to cooperate in the spirit of the national NPS policy with the appropriate federal, state, areawide, local and/or private sector agencies responsible for NPS management.

o Utilize the Corps of Engineers authority under Section 22 of PL93-251 "Planning Assistance to States" to provide technical assistance for state development of their water resources and its applicability to NPS management.

- Be prepared to respond to opportunities provided by NPS programs to provide reimbursable services to the lead federal, state,areawide,local and/or private sector agencies in technical areas in which the Corps of Engineers has developed expertise.

- Support the exchange of water quality and other technical specialists between the Corps of Engineers, EPA and other federal/state/local/areawide/private sector agencies.

- Participate in annual meetings on the technical and policy aspects of NPS.

III INCENTIVES

The Corps of Engineers does not feel at this time that it can provide any incentives for implementation of a NPS management program. The Corps of Engineers conducts only Congressionally authorized studies; in contrast, the thrust of the NPS policy is to encourage state, areawide, local and/or private sector implementation. However, as part of its responsiveness to the national NPS policy, the Corps of Engineers will consider the requirements of these managing agencies in the planning, construction, and operation of its projects.

IV ENFORCEMENT

The Corps of Engineers' ability to provide enforcement capability is limited. Within its regulatory public interest review, the effects a project will have upon water quality are routinely evaluated. Potential point and non-point source pollution associated with a project are considered; however, non-point source pollution is normally only a secondary impact of authorized activities (e.g., runoff from a road). While conditions are occasionally placed upon permits to control non-point source pollution (e.g., erosion control during construction) there are few, if any, activities which are regulated by the Corps of Engineers that result in direct, non-point pollution.

As a general policy the Corps of Engineers fully supports all efforts to reduce non-point source discharges. Such reductions will be of benefit to the Corps of Engineers' regulatory and dredging programs in two ways. First, a reduction in the overall sediment load will diminish the number of and/or amount of dredged material discharges regulated or conducted by the Corps of Engineers. Secondly, the reduction in contaminants introduced both through point and non-point source discharges will ease the environmental degradation associated with the discharges of dredged and/or fill material.

The COE will take the following action to the maximum extent practicable;

- o Although presently in place, the principles of the national NPS policy will be formally proposed for incorporation into the regulatory program and close coordination maintained with the EPA in the spirit of cooperation.

V COORDINATION

As stated in the Preamble the water quality objectives of the Clean Water Act will not fully be achieved until the NPS pollution problem is addressed. In recognition of this fact the Corps of Engineers will continue to cooperate fully with those federal, state, areawide, local and/or private sector agencies responsible for water quality and NPS management programs through existing (e.g., NEPA, EO 12372) and any proposed future coordination mechanisms(e.g., NPS committees).

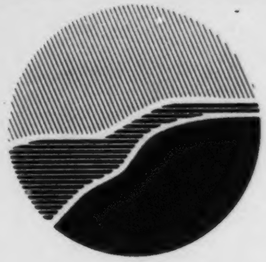
VI RESOURCES

It is not anticipated, at this time, that any additional funding and/or personnel requirements will be necessary for the Corps of Engineers to implement the NPS policy within its programs. However, it is felt that the Corps of Engineers should continue to evaluate the NPS program as it evolves to determine impacts upon projects, programs and any funding or personnel requirements that may be needed in the future as individual state, areawide, local and/or private sector agencies begin to implement the national NPS policy and establish individual programs.

VII PROGRAM EVALUATION AND OVERSIGHT

This area will be the responsibility of the EPA under the authority of the Clean Water Act and E.O.12088; however, it should be kept in mind that the Corps of Engineers as an executive agency will be just as accountable to a national policy on NPS as would any other agency. Therefore EPA′s role in federal oversight should be viewed as one of providing assistance and consultation, allowing each federal agency to be responsive to the NPS policy on its own. In this regard the Corps of Engineers will oversee the implementation of the national NPS policy on its own projects and activities through the appropriate administrative and technical avenues.

U.S. Department of Defense



B-88-a

OFFICE OF THE ASSISTANT SECRETARY OF DEFENSE
WASHINGTON, DC 20301

MANPOWER
INSTALLATIONS
AND LOGISTICS

22 OCT 1984

Mr. Jack E. Ravan
Chairman
Federal-State-Local NPS Task Force
Office of Water (WH-556)
US Environmental Protection Agency
401 M Street, SW
Washington, DC 20460

Dear Mr. Ravan:

Representatives of the military departments have developed approaches to managing nonpoint sources on Defense lands that would strengthen and improve our mutual efforts to address these problems at all levels. Defense Department strategy outlining ongoing and future nonpoint source management activities is attached.

The National Nonpoint Source Policy developed by your Task Force will help all of us better coordinate our approaches and programs. The Department of Defense is willing fo comply with the National Policy being proposed.

Sincerely,

Doug

acting for Robert A. Stone
Deputy Assistant Secretary of Defense
(Installations)

Attachment

C.Ramsey//jwc/18Oct84

File No.: NR-4.1

bcc: Bill Klesh (COE)
COL Magness (DAEN-ZCE)
NOP-45
Paul Hubbell (HQMC)
AF/LEEV

DEPARTMENT OF DEFENSE

NONPOINT SOURCE MANAGEMENT STRATEGY

PREAMBLE

Nonpoint source pollution has been a significant contributor to the degradation of water quality throughout the nation. To mitigate nonpoint source pollution the Department of Defense (DoD) has developed a nonpoint source management strategy in response to the national nonpoint source policy. The purpose of the strategy is to outline the implementation of an effective method to abate nonpoint source pollution generated by DoD.

The national nonpoint source policy objective is to support and accelerate the development and implementation of NPS management programs through the following actions;

a. Further refinement/assessment of NPS problems;

b. Establishment of an institutional framework(s) for intergovernmental NPS programs;

c. Delineation of appropriate federal, state, areawide, local and/or private sector agency roles;

d. Support for increased effort and emphasis at all levels of government;

e. A schedule for program development and an implementation strategy for each participating agency;

f. Creation of a working partnership within the federal, state, areawide, local and private communities to address NPS problems;

g. Development and assessment of Best Management Practices (BMP's); and

h. Recognition that NPS is unique from point sources and that management programs must be based upon site specific conditions. Each installation has it's own unique problems with NPS management.

DEPARTMENT OF DEFENSE

NONPOINT SOURCE MANAGEMENT STRATEGY

Several areas have the potential to be affected by the national NPS policy including;

- a. Military construction projects (including O&M facility projects)
- b. Installation operations
- c. Community planning
- d. Land management
  - 1. Forestry management
  - 2. Off-road vehicle use (military training and recreation)
  - 3. Stormwater runoff
  - 4. Leasing of DoD land to private individuals and companies (i.e. agricultural)
  - 5. Fish and wildlife management
  - 6. Other land use planning
  - 7. Erosion control
  - 8. Pest management
- e. Intergovernmental coordination of Federal development programs and activities.

I PROBLEM ASSESSMENT

The Department of Defense is a major landholder within the United States. Because of these major landholdings it is certain that any national effort to control nonpoint source pollution will have a significant impact at every level of management. The national NPS strategy has established the lead role with the individual state or local agencies. In keeping with the long established DoD policy of pollution abatement, DoD will provide some support to the state or local agencies with NPS management.

DEPARTMENT OF DEFENSE

NONPOINT SOURCE MANAGEMENT STRATEGY

PROBLEM IDENTIFICATION

In order to support other federal, state, areawide, local and/or private sector NPS agencies with NPS problem identification, DoD will;

a. Support state, areawide, local and/or private sector agencies in their efforts to identify and assess NPS pollution problems.

b. Provide routinely collected water quality and related data upon request to NPS management agencies.

c. Provide related research and development information upon request to NPS management agencies.

d. Continue to cooperate in the national effort to abate NPS pollution.

MONITORING AND DATA MAINTENANCE

a. Provide, upon request, other federal, state, areawide, local and/or private sector agencies with results of the water quality and hydrologic sampling conducted by DoD.

b. Establish and maintain close coordination with other federal, areawide,local and/or private sector NPS agencies.

c. Sample parameters whenever possible without mission degradation and upon request of designated NPS agencies that would provide valuable input into federal, state, areawide, local and/or private sector NPS programs.

RESEARCH AND DEVELOPMENT

a. In accordance with established routine technical transfer, results of research and development projects related to NPS pollution should be provided to other federal, state, areawide, local and/or private sector NPS agencies.

b. DoD will provide specific guidance in order to give projects for NPS pollution abatement greater attention.

c. Coordinate with federal, state, areawide, local and/or private sector agencies DoD research and development projects to examine the possibility of tailoring these projects to also examine NPS problems as appropriate..

II PROGRAM IMPLEMENTATION

The DoD NPS implementation strategy will be directed at the installation level with guidance and oversight at the major commands, DoD component Headquarters and by the Department of Defense. To this end the implementation of the strategy will be the responsibility of the installation commanders. Designated DoD interagency/intergovernmental coordinating agents will coordinate installation efforts in multi-installation/multi-service areas.

PROGRAM PLANNING, DEVELOPMENT AND IMPLEMENTATION

a. Include in the planning, policy, operation and maintenance and construction regulations language that reflects the principles of the national NPS policy.

b. Include a section on NPS management in all plans and policies related to NPS.

c. Coordinate with federal, state, areawide, local and/or private sector NPS agencies when developing NPS plans and policy where pertinent, DoD-state Memorandum of Understanding, developed pursuant to DODD 4165.61 and related military department guidance may be used to carry out intergovernmental and interagency positions of the implementation strategy.

d. Specific NPS program projects will be included in the semi-annual A-106 report.

e. Increased emphasis will be given to BMP which are now included in the spill prevention control and countermeasure plans.

f. DoD will provide specific wording on NPS management in the annual defense guidance.

DEPARTMENT OF DEFENSE

NONPOINT SOURCE MANAGEMENT STRATEGY

TECHNICAL ASSISTANCE AND EDUCATION

a. Include NPS management in existing training for individuals and managers responsible for installation activities/operations.

b. Continue to cooperate with other federal, state, areawide, local and/or private sector agencies in the spirit of the national NPS policy.

c. Support the exchange of water quality and other management and technical specialists between the Department of Defense and other federal, state, areawide, local and/or private sector NPS agencies.

d. Participate in annual meetings on the policy, management and technical aspects of NPS.

e. Give increased emphasis to NPS problems and solutions in DoD public awareness programs.

III INCENTIVES

The Department of Defense will be responsive in the development of public incentives to cooperate with the national NPS management policy. DoD will consider the requirements of the NPS managing agencies in the planning, construction, and operation of DoD projects.

IV ENFORCEMENT

The Department of Defense has no authority for the enforcement of the national NPS pollution policy although DoD will cooperate fully with those NPS management agencies that have enforcement authority.

V COORDINATION

The Department of Defense and it's components will continue to cooperate with other federal, state, areawide, local and/or private sector NPS management agencies in every possible aspect of NPS.

DEPARTMENT OF DEFENSE

NONPOINT SOURCE MANAGEMENT STRATEGY

VI RESOURCES

The Department of Defense has an existing staff of environmental professionals which routinely deal with NPS management issues. Although the scope of additional funding and/or personnel requirements necessary for DoD to implement the NPS policy within it's programs cannot be estimated at this time. We anticipate that such additional resources will be required for the DoD to assume it's NPS responsibilities without significant mission degradation. To this end DoD will continue to evaluate the NPS program as it evolves to determine impacts upon projects, programs and any funding or personnel requirements that may be needed in the future as individual state, areawide, local and/or private sector agencies begin and establish NPS programs.

VII PROGRAM EVALUATION AND OVERSIGHT

a. The DoD NPS Implementation Strategy and subsequent facility NPS plans will be evaluated and reviewed at each level of management within DoD.

b. The plans and programs of other federal, state, areawide, local and/or private sector NPS agencies will be reviewed and incorporated into DoD NPS policies as appropriate.

c. Coordination with federal, state, areawide, local and/or private sector NPS agencies will continue.

Tennessee Valley Authority

B-95-a

TENNESSEE VALLEY AUTHORITY
KNOXVILLE, TENNESSEE 37902

NOV 19 1984

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11-21-84
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Mr. Jack E. Ravan
Chairman, National Nonpoint
Source Policy Task Force
Office of Water (WH-556)
U.S. Environmental Protection Agency
Washington, D.C. 20460

Dear Jack:

Over the past six months, I have represented the Tennessee Valley Authority (TVA) as a member of the National Nonpoint Source Task Force. TVA commends you for initiating the task force and we expect the resulting National Nonpoint Source Policy will make our mutual efforts to achieve Clean Water Act goals more effective. I hope this will lead to cooperative nonpoint pollution control demonstrations in the Tennessee Valley region under the Memorandum of Understanding between our agencies.

I believe that the policy developed by the task force will certainly help us coordinate Federal agency activities, and I join with others on the task force in recommending that it be presented to Mr. Ruckelshaus. From our experience of operating reservoirs and conducting water quality improvement programs, we know full well the impact of nonpoint source pollution and the difficulty of implementing effective abatement programs. We had hoped for a more comprehensive policy involving a more active Federal presence and stronger incentives; it has been our experience that voluntary nonpoint abatement programs have not been successful in achieving water quality goals. However, we support this policy because we believe it is an important step toward creation of effective nonpoint pollution control programs that will restore and protect our Nation's valuable water resources.

Sincerely,

Martin E. Rivers

Martin E. Rivers, Director
Environmental Quality

An Equal Opportunity Employer

TENNESSEE VALLEY AUTHORITY
KNOXVILLE, TENNESSEE 37902

OCT 23 1984

RECEIVED
10-25-84
X

Mr. Jack E. Ravan
Assistant Administrator for Water (WH-556)
U.S. Environmental Protection Agency
401 M Street, SW.
Washington, D.C. 20460

Dear Jack:

In response to your request for preparation of a nonpoint source strategy by Federal agencies, which was made at the September Nonpoint Source Task Force meeting, I am forwarding a list of nonpoint source pollution control activities that TVA is planning to undertake during fiscal year 1985. This list, structured in the same format as your agency's draft strategy, does not really comprise a nonpoint pollution control strategy, but was prepared by extracting relevant activities of ongoing programs directed toward other goals. It will serve as our preliminary working document toward preparation of a TVA-wide nonpoint source pollution control strategy.

Once the National Nonpoint Source Policy is finalized in December, I plan to ask each TVA office to help develop a long-term strategy for the agency so that TVA will meet its obligations under the national policy as well as its regulatory responsibilities and program objectives. I hope the strategy will include cooperative projects with EPA as part of a Memorandum of Understanding (MOU) that is expected to be finalized soon between EPA and TVA. The MOU outlines principles and guidelines for working together in environmental program areas and provides for an interagency coordinating committee to develop cooperative projects. We will work to ensure that nonpoint pollution control projects receive priority attention.

I would like to point out one particularly exciting possibility emerging from the activities of our Mapping Services and Water Quality Branches. One of the reasons that nonpoint pollution problems continue to be serious environmental threats is the lack of adequate information on the character, extent, and spatial distribution of nonpoint pollution source areas. Over the past few years, TVA has been developing remote sensing strategies for the inventorying of nonpoint source areas in high priority watersheds. These alternative strategies for data collection could be used to target nonpoint pollution control efforts to the "hot spot" source areas that significantly contribute to water quality degradation. Use of such targeting strategies may be essential for achieving our water quality goals in a cost-effective manner.

An Equal Opportunity Employer

I look forward to working with you and your staff on cooperative projects in the Tennessee Valley that will help meet the objectives of the National Nonpoint Source Policy.

Sincerely,

for M Paul Schmierbach

Martin E. Rivers, Director
Environmental Quality

Enclosure

REDRAFT:AMD:PL:10/17/84

NONPOINT SOURCE POLLUTION CONTROL ACTIVITIES PLANNED FOR FY 1985
TENNESSEE VALLEY AUTHORITY

I. ASSESSMENT

Problem Identification

- In cooperation with USDA and Valley State Food and Agriculture Councils, complete development of a computer-based natural resource data information system and prepare an assessment of the status and condition of soil, water, and related agricultural resources in the 7-State TVA region. The assessment will include resource problems, alternative solutions, and cost estimates.
- Conduct an assessment of water quality concerns from point and nonpoint pollution sources in the Muscle Shoals area of north Alabama near TVA reservoirs.
- Complete the inventory report that will identify all abandoned mined land problems remaining in the Tennessee Valley.

Monitoring

- Monitor water quality in watersheds surrounding Guntersville Reservoir to identify point and nonpoint contributions of pollution to provide a basis for preparing a water quality management plan for the reservoir.
- In cooperation with Valley State agencies, design a water quality monitoring program for the 7-State TVA region for implementation in FY 1986. The monitoring effort would provide data for assessments of water quality and trend evaluation--including nonpoint source pollution.
- Test the utility of remote sensing methods for determining trophic status of TVA reservoirs.
- Evaluate the impact on water quality of failing septic tanks on three TVA reservoirs using septic tank leachate plume detection equipment.
- Continue to test and document the use of aerial photographic and other remote sensing systems for inventorying nonpoint pollution source areas, such as septic tank system failures, animal waste sites, soil erosion, abandoned mined lands, and some commercial and industrial runoff. Further investigation needs to be done on tracking and monitoring the fate of pollution from such sites. These alternative data collection activities will help to identify significant nonpoint pollution source areas, target control programs to priority source areas, and provide cost savings over traditional activities.

Research and Development

- Conduct research to find ways of lessening or preventing loss of nitrogen from applied fertilizers and to investigate the best fertilizer application techniques for use with no-till or reduced tillage systems.
- Conduct research and demonstration activities involving application of municipal sludge to agricultural and surface mined lands.
- Investigate the impact of using nonreproducing white amur fish for controlling nuisance aquatic weeds in lieu of herbicide treatment in a TVA reservoir embayment.
- Conduct research on the effects of acid precipitation runoff on water quality and aquatic life in the Southern Appalachians.
- Evaluate the water quality effectiveness of agricultural implementation of best management practices (BMP) in the Swan Creek watershed in Alabama.
- Develop a cooperative research project with USDA for use of a geographic information system in nonpoint pollution control.
- Develop a more reliable, state-of-the-art, solute transport model to predict the impact of activities on groundwater quality and down-gradient surface water quality.
- Evaluate the effectiveness of biomonitoring techniques for targeting and monitoring nonpoint pollution sources.
- Conduct research and demonstrations on the efficacy of artificial wetlands as small community waste treatment systems.

II. PROGRAM IMPLEMENTATION

Program Planning, Implementation

- In cooperation with USDA and the 7 Valley States, conduct demonstrations of soil erosion control and water quality improvement in agricultural watersheds. Among the objectives of the cooperative USDA/TVA/Valley States program are improving water quality and serving as a national model for nonpoint source pollution control to achieve Clean Water Act goals. Develop and implement at least one demonstration in each of the 7 Valley States.
- In cooperation with State and other Federal agencies, design a TVA groundwater program to meet the needs identified in the Groundwater Situation Assessment completed by TVA in FY 1984.
- Develop a process for achieving integrated water resources management--including point and nonpoint source pollution tradeoffs--in a river basin. Known as TVA's river basin rehabilitation initiative, the

effort will identify water resources issues and problems, propose alternative solutions, and involve the general public and local/State/Federal government in a cooperative demonstration to achieve water quality goals.

- * Develop and implement, in cooperation with the Valley States, reservoir water quality management plans for TVA reservoirs, including nonpoint pollution control needs. Complete draft plans for Boone, Fort Loudoun, Pickwick, and Tellico Reservoirs, and initiate implementation of the Cherokee Reservoir water quality management plan. One element of the Cherokee plan will be to aerate a portion of the reservoir to provide a refuge area for striped bass.

- * Finalize the land management plan for TVA's Kentucky Reservoir lands and begin planning for Watts Bar Reservoir lands. Nonpoint pollution control is sought through specifying the use of BMPs in land management plans.

- * Conduct cooperative demonstrations with local, State, and Federal agencies to achieve adequate reclamation of abandoned mined land in the Tennessee Valley on both coal and noncoal mined lands. This includes mica, feldspar, phosphate, manganese, clay, sand, and brown iron ore mined lands as well as eroding lands in the Copper Basin. Select, plan, and initiate reclamation activities on some 142 contracts associated with pre-1978 strip mined land from which TVA purchased coal.

- * TVA is moving from its experimental program for improving water quality in its dam releases to an implementation program. Turbine aeration at three projects (Norris, South Holston, and Tims Ford) devices will be installed at three projects with trout fisheries downstream of the dams. Improvements due to providing minimum flows downstream of two projects will be assessed. Also an aeration device will be placed in the Upper Bear Creek Reservoir to oxidize iron, manganese, and sulfide, and alleviate downstream odors and toxicity to fish. A project is being conducted with EPA and Tennessee to assess potential for tradeoffs between point and nonpoint controls to achieve dissolved oxygen objectives.

- * TVA will evaluate the feasibility of using an aeration device in Upper Bear Creek and Normandy Reservoirs to improve water quality.

- * Develop and implement, in cooperation with the 7 Valley States and environmental and natural resources organizations, a waste management program which ensures that all waste, both municipal and hazardous, generated in the Valley, is properly treated and disposed of. Emphasis is on waste reuse, recycling, and reduction.

Targeting

- * Water quality and public health concerns have been raised in the Duck River watershed in Tennessee and the Bear Creek Floatway in Alabama from nonpoint pollution from animal waste and failing septic tank systems. In cooperation with State and Federal agencies, TVA is monitoring water quality, providing cost-sharing assistance for the construction of animal waste facilities, and will assess water quality effectiveness of the work through monitoring and use of the HSPF simulation model.

* TVA has targeted a groundwater protection demonstration to a multicounty area of east Tennessee dependent on springs and wells for water supply. Recharge areas will be identified, monitoring conducted, best management practices to protect subsurface quality will be identified, and the information used by local governments to establish conservation districts to protect their groundwater supplies. A "how to protect groundwater" information package will be developed for use by other communities.

* TVA assistance as part of the USDA/TVA/Valley State soil erosion control effort is targeted to specific areas with resource management problems--an example being west Tennessee, one of USDA's "targeted" areas.

* Monitoring activities are targeted to specific areas with water quality concerns, such as the point and nonpoint pollution investigation in Muscle Shoals, Alabama, area.

Technical/Assistance and Education

* TVA expects to provide technical assistance to at least 50 communities for improvement of solid waste collection systems, reduction of the amount of waste generated, and recycling of materials.

* TVA provides technical assistance as part of most of the programs and activities listed in this response.

* TVA is initiating a new water resources education activity in FY 1985 to develop tools for focusing public attention on important water quality issues, including nonpoint source pollution.

* TVA will help develop appropriate cooperative programs with Valley States to reclaim abandoned coal mined lands that will not be reclaimed under existing Federal and State laws.

* TVA will continue to provide through FY 1985 technical assistance to eligible small coal suppliers to help them meet the requirements of Federal and State mine reclamation laws.

III. INCENTIVES AND ENFORCEMENT

Incentives

* TVA provides cost-sharing incentives for animal waste management facilities and for abandoned mined land reclamation in several targeted watersheds. Limited cost sharing and experimental fertilizer formulations are provided for TVA Resource Management Conservation Farms in the targeted west Tennessee soil erosion control effort.

- A 50 percent TVA, 50 percent local cost-sharing incentives program is offered by TVA to conduct environmentally acceptable stream renovation activities in eight counties in the western portion of the Valley. Soil erosion has filled in the channels and caused serious flooding problems. TVA uses a form of "cross compliance" in that before a watershed can be eligible for this stream renovation cost-sharing assistance, BMPs to stop erosion must be in place on the watershed.

Enforcement

- When TVA purchases coal it employs the use of contract provisions that make any violations of State or Federal laws or regulations a breach of contract with TVA. Enforcement of this "cross compliance" provision includes suspension of the contract and refusal to accept coal shipments.

- Under section 26a of the TVA Act, approval of plans for obstructions across, along, or in the Tennessee River system must be approved by TVA. In addition, TVA issues leases, licenses, and other convenants for the use of its land or for access across its land. In the administration and disposal of TVA lands and in the approval of water-use facilities constructed on TVA reservoirs, TVA incorporates pollutant control provisions, including requirements for using BMPs, to control nonpoint source pollutants in deeds, leases, licenses, permits, and other documents as appropriate. This includes the requirement to use BMPs for those using TVA lands for agricultural purposes--including cropland. This program is regulatory in nature and the land user must sign an agreement to utilize these nonpoint source control measures.

IV. COORDINATION

- Coordination with State and/or Federal agencies is an integral part of most of the activities listed in this response. In addition, TVA participates on numerous task forces and committees ranging from soil erosion control and resolution of in-place toxic contamination to EPA's national advisory committee on groundwater protection (Interagency Committee on Groundwater).

- TVA and the State of Tennessee have signed an MOU for TVA to be recognized as the area management agency for controlling nonpoint source pollution originating from properties under TVA custody and control. A similar MOU is expected to be finalized with Alabama in FY 1985, and efforts to develop similar agreements with two other Valley States will be initiated.

- A MOU between TVA and EPA outlining principles and guidelines for working together in environmental program areas has been developed and is expected to be signed in FY 1985. An interagency coordinating committee and subcommittees (including one projected for nonpoint source pollution) will be established, and cooperative projects will be undertaken.

V. RESOURCES

- TVA will continue to seek appropriations for water resources management and will require new appropriations for dedicated nonpoint source initiatives.

- TVA will seek cooperative funding ventures with EPA, USDA and other Federal/State agencies to address nonpoint pollution control so that Clean Water Act goals are achieved in the 7-State TVA region.

- TVA will provide support for EPA's National Nonpoint Source Pollution Conference to be held in May 1985 in Kansas City; two TVA staff members will serve as cochairs of the Program Committee.

- TVA will provide support for publication of a special issue of the Journal of Soil and Water Conservation in early 1985, which will be devoted to nonpoint source pollution control.

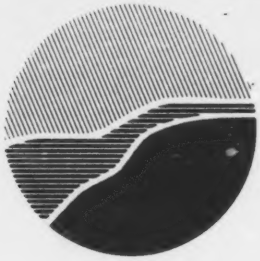
IV. PROGRAM EVALUATION AND OVERSIGHT

- TVA plans to develop a nonpoint source pollution control strategy for its activities and facilities in FY 1985. The strategy will be prepared in response to the National Nonpoint Source Pollution Control Policy issued by EPA and will include recommendations for evaluating effectiveness in achieving water quality goals.

- An assessment will be prepared of the inspection and enforcement posture taken by regulatory agencies implementing the Federal Surface Mining Control and Reclamation Act in States from which TVA currently purchases coal. If environmental protection is not being assured, TVA may choose to reinstitute provisions for environmental protection and reclamation in its purchasing contracts.

- During FY 1985, funds permitting, TVA will conduct an assessment of nonpoint source pollution control measures employed at TVA properties (BMPs incorporated in leases, licenses, land transfers; erosion control plans at TVA facilities; and spill prevention control and countermeasures plans at TVA facilities).

Wisconsin Department of Natural Resources



B-104-a

State of Wisconsin \ **DEPARTMENT OF NATURAL RESOURCES**

Carroll D. Besadny
Secretary

BOX 7921
MADISON, WISCONSIN 53707

November 7, 1984

File Ref: 3200

Mr. Jack E. Ravan, Chairman
Federal-State-Local NPS Task Force
Office of Water (WH-556)
U.S. Environmental Protection Agency
Washington, D. C. 20460

Dear Mr. Ravan:

The efforts of the EPA Nonpoint Source Task Force have resulted in a National Nonpoint Source Policy which provides a good framework for implementation. However, it should not be viewed as a substitute for a National Nonpoint Source Program.

I believe the National Nonpoint Source Policy should be presented to Mr. Ruckelshaus in the context of a first step toward developing a National Nonpoint Source Program. The Environmental Protection Agency must provide the national leadership in converting this policy to an implementation program.

Sincerely,
Division of Environmental Standards

Lyman F. Wible

Lyman F. Wible
Administrator

cc: Robbi Savage - ASIWPCA

State of Wisconsin \ **DEPARTMENT OF NATURAL RESOURCES**

Carroll D. Besadny
Secretary

BOX 7921
MADISON, WISCONSIN 53707

October 25, 1984

File Ref: 3200

Mr. Carl F. Myers, Acting Director
Water Planning Division (WH-554)
U.S. Environmental Protection Agency
Washington, D.C. 20460

Dear ~~Mr. Myers:~~ Carl

RE: EPA Nonpoint Source Task Force

As you are aware, the State of Wisconsin is currently conducting a comprehensive program for the control of nonpoint sources. Since we are actively implementing a program, the development of a strategy is inappropriate. The Wisconsin Nonpoint Source program is consistent with the draft national policy prepared by the Task Force and contains all the elements identified in the model state strategy.

I have enclosed a summary of the objectives and major elements of the Wisconsin Nonpoint Source Program. The sections on project objectives, critical area identification and program and project administrative structures should be of value to the Task Force. We will revise this summary to incorporate review comments from the Task Force.

Sincerely,
Division of Environmental Standards

Lyman F Wible

Lyman F. Wible
Administrator

cc: Robbi Savage, ASIWPCA, Washington, D.C.

WISCONSIN NONPOINT SOURCE CONTROL
- A PROGRAM SUMMARY -

INTRODUCTION

Although it has been recognized in Wisconsin for many years that fishable and swimmable water quality will not be reached in many lakes and streams unless an aggressive program for controlling urban and rural nonpoint sources is also pursued, it was the development of the areawide water quality management plans (Section 208, PL92-500), that put the need into perspective. The degradation of smallmouth bass and trout fisheries, accelerated eutrophication of inland lakes, and impaired water quality of the nearshore waters of Lake Michigan are examples of the water quality problems that require the control of both point and nonpoint sources. In Wisconsin, water resources such as these are vital to the state's economy because of their important recreational use.

The Wisconsin Legislature recognized this need and responded in 1978 with the creation and funding of the Wisconsin Nonpoint Source Water Pollution Abatement Program. The program was tailored to the nonpoint source needs in urban and rural areas of Wisconsin by incorporating aspects of various existing programs as well as devising new approaches.

The following three premises were established as the basis for the Wisconsin program.

First, because pollutants can originate from many different types of nonpoint sources, effective nonpoint source pollution control must be comprehensive. This means that all critical nonpoint sources must be controlled in order to accomplish the desired water quality objectives.

Second, because of the comprehensive nature of the Wisconsin nonpoint source control program, the goals of soil conservation programs are not the same as the goals of the Wisconsin program. Therefore, an effective nonpoint source management program cannot rely solely on existing soil conservation programs.[1]

Third, a nonpoint source control program is, by definition, a water quality program, and therefore requires strong technical involvement and leadership by the state water quality agency. This leadership is essential, particularly in identifying water quality objectives and using assessment techniques such as watershed models.

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[1] In 1982, the Wisconsin Legislature established a state erosion control program administered by the Wisconsin Department of Agriculture, Trade and Consumer Protection. Although this program is separate from, and has different objectives than the nonpoint source control program, the two programs are coordinated through an interagency memorandum of understanding.

KEY PROGRAM COMPONENTS

The Wisconsin nonpoint source control program includes five major components: 1) program purpose and objectives; 2) criteria for project selection; 3) project objectives and critical source identification; 4) program and project administrative structures; and 5) accomplishment tracking.

Program Purpose and Objectives

The basic purpose of the Wisconsin nonpoint source control program is to systematically control nonpoint source pollution so surface water and groundwater quality goals can be met within a reasonably time frame. The program is designed to deal with the varying nature of nonpoint sources in widely different areas of the state. As examples of this variety in sources, sediments can erode from croplands, construction sites, streambanks, and grazed woodlots, and wash off city streets. Nutrient loading can be associated with barnyard runoff, cropland erosion, manure spread on croplands and run-off from city lawns and sheets. Likewise, heavy metals and other toxic substances can originate from many different types of sources.

1) Single source management programs will achieve many on-site land management objectives and may secondarily achieve some pollution control. However, these programs, with installations scattered throughout counties, often are of limited value in solving pollution problems arising in entire hydrologic units. Thus, the decision was made for the Wisconsin program to concentrate available funds for technical and educational support into selected watershed projects where maximum comprehensive improvements in water quality could be achieved.

2) All categories of nonpoint sources - animal wastes, croplands, forest and woodlands, construction sites and urban lawns and streets - are addressed. Other resource problems are identified and solutions to these problems are coordinated with the nonpoint source control program in order to make this program as comprehensive as possible.

3) Early in the Wisconsin program, the Department of Natural Resources analyzed data from the entire state to assess comprehensive nonpoint source control needs and to aid in project selection. Major land use areas and associated types of land management were compared to water resources data. As the resulting geographical distribution of all potential nonpoint sources became more apparent, the need to further focus the program on the most critical watersheds also became apparent.

Figure 1 illustrates the portions of the state where the potential for nonpoint source problems is most critical and where intensive nonpoint source controls will most likely be needed in the future. The areas illustrated in Figure 1, represent a composite of all potential urban and rural nonpoint sources.

The combined critical area contains about 40 percent of the state Class I and II trout streams (about 4,500 miles), about 50 percent of the state's smallmouth bass streams (about 3,500 miles) and about 120 deep water recreational lakes. The area consists of about 40 percent of the surface area of the state and almost all major urban centers. Approximately 130 individual watershed projects, averaging 100,000 acres in size, will need to be implemented within this area.

This hydrologic unit approach, called the priority watershed approach, allows all categories of urban and rural nonpoint sources within specific critical areas of a watershed to be identified and controlled through the installation of management practices. Specific areas within a watershed that contributes pollutants to lakes and streams are collectively called Priority Management Area. The areas in the watershed not significantly contributing to water quality impairment are also identified, but are excluded from the project area.

In addition to problem and source identification, the priority watershed approach has proven to be an effective framework for project implementation. This approach, implemented through Priority Watershed Projects, concentrates available educational, financial, and technical resources in these critical watersheds where maximum water quality benefits will result from the investment made of money and personnel..

Criteria for Project Selection

Six criteria are used for Priority Watershed Project selection. These criteria are:

1) The severity of water quality problems;
2) The magnitude of the pollutant load likely causing the pollution and the potential to significantly reduce that load;
3) The landowners' willingness to participate in the program;
4) The willingness and capability of local agencies to carry out their role in the program;
5) The willingness and capability of local agencies and units of government to control other sources of pollution, such as by enacting construction site erosion control ordinances; and
6) The potential public use and benefits that will result from the proposed watershed project.

The selection process for Priority Watershed Projects developed by the Department of Natural Resources with input from state and federal agencies, local units of government and the general public, local and regional interests while maintaining statewide objectives. The process emphasizes projects where water quality problems are critical and land management practices are the most feasible means of control. For example, it is more effective to improve a mesotrophic lake than rehabilitate eutrophic lakes.

Priority Watershed Project Objectives and Critical Source Identification

Once a watershed is selected for a Priority Watershed Project, an eight to nine year planning and implementation process begins. The first step in this process is preparation of an implementation plan based on a detailed inventory and assessment of the critical source areas in the watershed and the project's water quality objectives. It generally requires about one year to complete the assessment and prepare the plan. The watershed plan is prepared by staff from both the Department of Natural Resources and local governmental units. Barnyard, cropland, stream bank and urban area models are used by Department technical staff to evaluate the significance of the sources. The Priority Watershed Plan is a consolidation of water quality and land use information so the specific causes and critical areas (Priority Management Areas) contributing to the water quality problem can be identified and the most practical means for controlling the pollution can be developed.

Central to each Priority Watershed Project are the water quality objectives identified for its lakes and streams. These objectives are essential to several major elements of Wisconsin's program. The determination of critical pollutants, significant sources, the level of desired nonpoint source pollutant load reduction, and the measurement of accomplishments are all based on the specific water quality objectives for each Priority Watershed Project. In addition, the severity of water quality problems and the attainability of water quality objectives are the primary factors in the selection of Priority Watershed Projects.

In determining water quality objectives, an understanding of the impacts of various pollutants on water resources is essential. Two points are important in determining these objectives. First, as with standards, the objectives must be based on potential use. However, with objectives related to nonpoint sources, the type of impairment rather than the numerical criteria commonly used for in-stream standards is more important. Impairments such as degraded fish habitat due to sedimentation of the bottom substrate which commonly occurs in many of Wisconsin's trout streams, do not relate well to numerical standards. Second, the identification of water quality problems and objectives in Wisconsin must depend, to a large degree, on biological and physical techniques since they relate to the type of impairment and use. Reliance on chemical parameters alone could easily result in many impaired uses being overlooked. Biological indicators often integrate fluctuations in chemical parameters and retain an overall measure of water quality impacts for a long period of time.

With the variety of dairy and cash crop farming and urban land uses present in Wisconsin, water quality problems are seldom caused by a single type of nonpoint source. For example, phosphorus entering a lake may originate from several sources, including barnyards, manure-spread fields, eroding croplands and urban areas. Thus, a categorical approach, one that deals just with one category of sources such as eroding croplands, will not be effective in nonpoint source control.

Likewise, an approach involving all landowners and all sources regardless of significance, is inefficient and is not cost-effective. The key, then, is to identify the critical land area and operations producing the majority of the pollutant load. A detailed comprehensive assessment of all nonpoint sources is conducted jointly by the staff of the Department of Natural Resources and the involved counties, cities and villages prior to implementing a Priority Watershed Project. Barnyards, fields where manure is spread, eroding streambanks, eroding croplands, construction sites, and existing urban areas are all inventoried. These detailed inventories enable more efficient use of time and money during implementation. For example, 25 to 50 barnyards can be inventoried in the time required to design and install barnyard runoff controls on one or two barnyards. Thus, substantial time and money are saved by not designing and installing practices for barnyards that might have been identified as significant using less detailed or more subjective inventories.

A number of tools are used to analyze the information collected during inventories. The Department of Natural Resources, with assistance from the Soil Conservation Service, has modified the Agricultural Research Service Animal Lot Runoff Model. All barnyards in a Priority Watershed Project are now assessed using this technique and are ranked in order of pollutant load. Currently, the Department is testing the ANSWERS Model for croplands and is developing an "operational" version of the model. Information and models from the International Joint Commission - Pollution from Land Use Activities Reference Group (IJC-PLUARG) and Nationwide Urban Runoff Program (NURP) studies are being used in assessing urban areas.

The Priority Watershed Plan is divided into two parts. Part 1, called The Technical Assessment, sets the goals of the watershed project by:

1) assessing the existing water quality problems and identifying the specific water quality objectives;

2) identifying the significant nonpoint sources and determining the significance of other pollution sources such as point sources and septic systems; and

3) identifying the water quality improvements that can reasonably be achieved through nonpoint source controls;

4) identifying the management needs by determining the Priority Management Area and estimating nonpoint source management practices, also called Best Management Practices, which will be effective in controlling the nonpoint source pollution.

Just as important as the identification of critical sources and areas where nonpoint source controls are necessary in order to meet water quality objectives is the often overlooked aspect of developing a detailed strategies for project implementation. The specific strategy for each Priority Watershed Project is prepared jointly by the Department and the appropriate cities and counties.

Currently, implementation strategies include detailed landowner contact lists based on the results of the watershed inventories. These lists are accompanied by a preliminary assessment of the severity and extent of nonpoint sources for each operation on the lists. As a result, county staff can concentrate their efforts on the 20 to 30 percent of the operations that are critical rather than individually contacting all landowners in the watershed. Project implementation strategies also identify and schedule educational activities, outline fiscal management procedures, discuss preliminary project budgets, and estimate staff needs.

The plan guides the Priority Watershed Project and details procedures and responsibilities to aid local staff in working more effectively. It can also serve an important educational function by showing the cause and effect relationship between land management and water quality.

Following the approval of the Priority Watershed Plan, there is a three year period during which landowners and municipalities can sign cost share agreements for the design and installation of Best Management Practices. Installation must take place within five years of the date the cost-share agreement is signed. The cost share recipient agrees to operate and maintain the practice for a specified period, normally 10 to 20 years. Failure to properly operate and maintain practices is considered a breach of the cost-share agreement and requires repayment of cost-share funds received.

Program and Project Administrative Structure

The administrative framework of the Wisconsin nonpoint source control program is designed for local implementation of each watershed project under state level administration and coordination. In rural areas, this framework is designed to maximize local agency contact with individual landowners and is based as much as possible on existing agencies and institutions. In urban areas, this framework is designed to maximize city and village involvement.

At the state level, the Wisconsin Department of Natural Resources provides program administration, including selection of Priority Watershed Projects, and provides technical expertise in water quality assessment, including source evaluation models to determine management needs. The department also allocates of the cost share and local staff assistance funds to implement watershed project activities.

At the local level, Land Conservation Committees[2], acting on behalf of their county boards, and municipalities provide project administration and implementation. These activities include the development of cost share agreements with individual landowners and the design and installation of Best Management Practices. They are also responsible for record keeping and are accountable to the state for project implementation. The Land Conservation Committees receive assistance from the University of Wisconsin Cooperative Extension Service, USDA Soil Conservation Service and the USDA Agricultural Stabilization and Conservation Service. Many counties have also entered into contractual agreements with these agencies to provide additional technical, financial or educational assistance needed to carry out Priority Watershed Projects.

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[2] The Land Conservation Committee is a standing committee of the County Board which has the responsibilities formerly assigned to Soil and Water Conservation Districts.

Priority Watershed Project implementation in Wisconsin is the primary responsibility of the cities, villages, and counties involved in the projects. The Department of Natural Resources staff reviews the progress of each project on a frequent basis. Land Conservation Committees provide project leadership on behalf of the County Boards. Technical assistance to landowners is provided by County Land Conservation Department and Soil Conservation Service staff.

In recent years a number of environmental programs have been assigned to county governments for local and coordination implementation. In Wisconsin these programs include the state erosion control program, forestry programs, animal waste regulations, and groundwater management in addition to the nonpoint source control program and the traditional federal soil and water conservation programs. Coordination between these programs at the county level is more effectively carried out through a "general purpose units of government", because the scope of most "special purpose unit of government", such as the former soil and water conservation districts, is generally too narrow. The county's reponsibilities in the nonpoint source control program as well as many of these state programs are assigned to the Land Conservation Committee. This provides a means of intergrating these state and federal programs into a coordinated local program able to meet the comprehensive natural resource needs experienced by many landowners. It, however, requires greater involvement and understanding by local officials in decision making due to the reduced role of federal agency staff in the management of the county's programs.

Although the nonpoint source control program uses the counties' experience with land management programs, many changes have been instituted as a result of the nonpoint source control program. Many counties have had to modify the scope of their existing programs. For example, some counties with very strong cropland erosion control programs had no experience in manure management and little experience in streambank erosion control. As a result, the trout habitat in the county's streams remained degraded and the bacteria levels remained extremely high despite progress in cropland erosion control. County staff expertise had to be developed in manure management and a new approach for increasing landowner awareness had to be created.

In many ongoing Priority Watershed Projects, the county staff has realized the need to initiate individual contacts with operators of critical areas or sources. On the other hand, county staff have also had to learn to turn down landowners who are interested in cost share assistance for practices on sites which were not identified as being significant during the inventory process.

The magnitude and intensity of the watershed projects require organizational skills often exceeding the existing level of skills present in many counties. The following examples illustrate the changes that counties must accommodate. Bookkeeping procedures have to be set up for handling annual budgets three to ten times the size of the entire county Agricultural Conservation Program (ACP) allocation. Best Management Practice design and installation activities have to be scheduled over the five year implementation period and the coordination of educational activities with landowners requires improved working relationships between agencies.

It has been found that additional county staff are needed in practically every project area selected. The Wisconsin nonpoint source control program provides state funds to support the necessary additional staff. So far, these additional staff needs have been met, either by the county hiring additional people or by contracting with the Soil Conservation Service for additional people. However, in the future it appears that most of the additional staff will have to be hired entirely by the counties, since Soil Conservation Service staff ceilings and limitations on their ability to redirect staff will restrict additional Soil Conservation Service assistance.

The Wisconsin nonpoint source control program has state appropriated support for three major aspects: 1) cost share funds for landowners and municipalities to install Best Management Practices; 2) local assistance aids for local units of government to fund additional technical assistance, education and information programs and financial and project management; and 3) administrative and planning funds for state level administration and for preparation of Priority Watershed Plans. These appropriations for fiscal years 1979 through 1985 are shown in Table 1.

Individual Best Management Practices are cost shared at 50 to 70 percent of the installation cost. The higher cost share rates are used for practices where the capital costs for installation are high and the offsite water quality benefits are greater than the onsite benefits to the landowner. A list of eligible practices and the maximum allowable state cost share rate is contained in Table 2. Local agencies can vary these rates for individual projects up to the state maximum rate.

The Wisconsin nonpoint source program uses a package approach to the installation of Best Management Practices. Cost share agreements must contain all Best Management Practices necessary to control nonpoint sources on each farm or municipality which participates in the program. A landowner, city, or village may not choose to install only those practices which are most desired. This approach is similar to that used in the Rural Clean Water Program but is quite different from the approach used by the Agricultural Conservation Program (ACP), which is familiar to most farmers.

This approach has worked well in Wisconsin and has resulted in control practices being installed as systems rather than on a piecemeal basis. Many practices, such as streambank fencing and construction site erosion and runoff control ordinances, are now being installed or enacted as part of a package where it is unlikely that they would have been selected for installation on an individual practice basis.

Accomplishment Tracking

The initial Priority Watershed Projects demonstrated the need to track project progress on an ongoing basis. A system using accomplishment indicators has been used to some degree in all projects and is now being used to a greater degree in all new projects. The indicators are used to meet the following objectives:

1) To relate to the water quality objectives and the pollutants causing the problem;

2) To relate to the type and severity of the sources to be controlled, so that pollutant load reductions can be calculated;

3) To provide feedback to the implementing governmental unit so progress can be determined on a frequent basis; and

4) To provide sufficient detail on the location and level of control to guide and interpret monitoring results.

An example of the usefulness of these tracking techniques is a project aimed at improving a trout fishery. In this situation, the stream has been degraded by low dissolved oxygen levels. Barnyard runoff control is used as an indicator of accomplishment. Since the pollutant load for each barnyard was calculated prior to the implementation phase of the project, each time a new cost share agreement is signed involving barnyard runoff control, a new pollutant load reduction can be determined.

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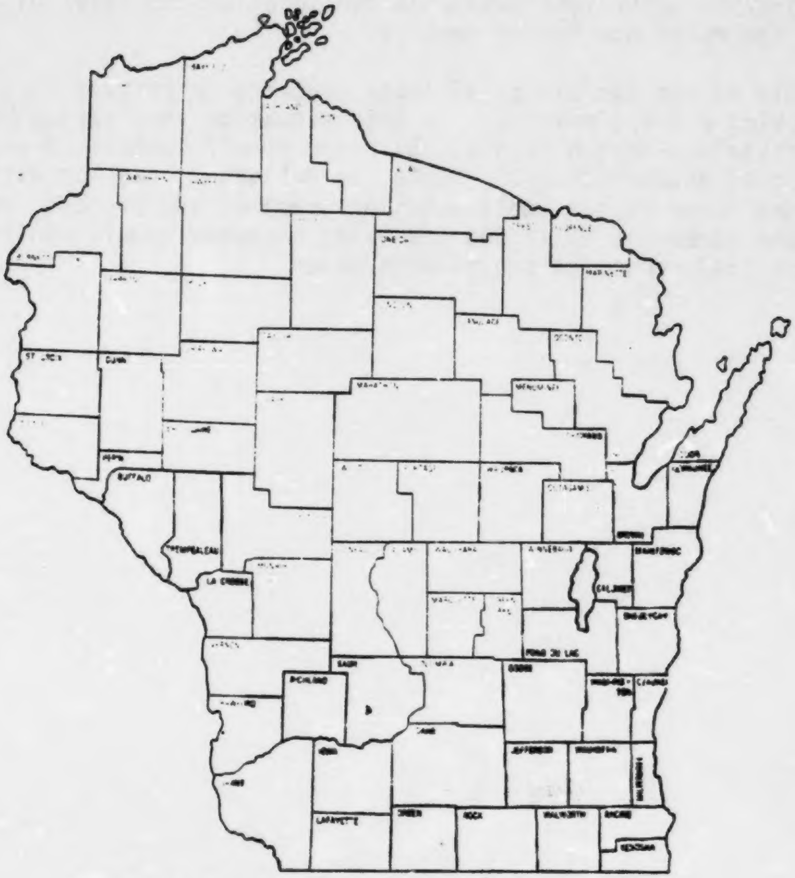
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DOOR
KEWAUNEE
BROWN
MANITOWOC
CALUMET
SHEBOYGAN
FOND DU LAC
SAUK
RICHLAND
DODGE
WASHINGTON
OZAUKEE
JEFFERSON
WAUKESHA
MILWAUKEE
LAFAYETTE
GREEN
ROCK
WALWORTH
RACINE
KENOSHA

Figure 1: Critical Nonpoint Source Areas in Wisconsin.

TABLE 1

State of Wisconsin Nonpoint Source Program Appropriations
Fiscal Years 1979-1985

	Fiscal Year*							
Appropriation Use	1978-79	1979-80	1980-81	1981-82	1982-83	1983-84	1984-85	TOTAL
Watershed Projects	$1,200,000	1,425,100	2,330,300	2,681,300	2,834,100	3,650,000	4,948,000	19,068,800
Local Assistance**	150,000	100,000	166,200	211,900	349,200	480,000	640,000	2,097,300
State Administration	200,000	205,000	205,000	380,000	410,000	595,000	610,000	2,605,000
TOTAL	1,550,000	1,730,100	2,701,500	3,275,200	3,593,300	4,725,000	6,198,000	23,771,100

*State Fiscal Year is from July 1 to June 30.

**This money is granted to the counties for technical and educational assistance and for the local administration of the program.

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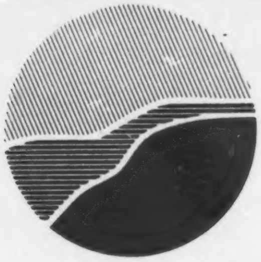
Table 2. Best Management Practices Eligible for Priority Watershed Projects

	Effectiveness	Capital Cost	Private On-site Benefit	Relationship to Customary Operating Practices	Maximum State Cost-sharing
Contour Cropping	High	Low	Moderate	Moderate	50%
Strip Cropping	High	Low	Moderate	Moderate	50%
Field Diversions	High	Moderate	Moderate	Low	70%
Terraces	High	Moderate	Moderate	Low	70%
Waterways	High	Moderate	Moderate	Moderate	70%
Reduced Tillage	High	Low	Moderate	High	50%
Critical Area Stabilization	High	High	Low	Low	70%
Grade Stabilization Structure	High	High	Low	Low	70%
Shoreline Protection	High	High	Low	Low	70%
Settling Basins	High	High	Low	Low	70%
Barnyard Runoff Management	High	Moderate	Moderate	Low	70%
Manure Storage Facilities	High	High	Moderate	Moderate	70% up to $6,000
Livestock Exclusion From Woodlots	High	Low	Low	Moderate	50%
Leaf Collection	Moderate	Low	Low	High	50%
Street Sweeping	Moderate	Low	Low	High	50%
Infiltration System	Moderate to High	Moderate	Low	Low	70%

5019A

Maryland Office of Environmental Programs



B-118-a

State of Maryland

OFFICE OF ENVIRONMENTAL PROGRAMS
DEPARTMENT OF HEALTH AND MENTAL HYGIENE
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Charles R. Buck, Jr., Sc.D. Secretary
William M. Eichbaum, Assistant Secretary

11-21-84
F

November 2, 1984

Mr. Jack E. Ravan, Chairman
Federal-State-Local Nonpoint Source Task Force
Office of Water
U.S. Environmental Protection Agency
Washington, D.C. 20460

Dear Jack:

Thank you for the opportunity to review the final proposed National Nonpoint Source Policy prepared by the Task Force. It has been my pleasure to serve on the Task Force to help develop the Policy.

The policy statement does, in my opinion, reflect the discussions we have had and the breadth of the issues that need to be addressed in the strategies. I congratulate you and your staff in preparing this statement that is clearly responsive and inclusive of the many views expressed at our Task Force meetings.

I am hopeful that the next session of Congress will utilize this policy statement and the strategies to further define the appropriate and reasonable roles of the Federal government, State governments, local governments, and private parties to abate nonpoint source pollution. I am also hopeful that the respective Federal agencies will amend their procedures for listing annually their water pollution control capital needs to include nonpoint source pollution control needs. The policy is not specific on this subject although this could certainly be done pursuant to the language under Federal agencies roles and responsibilities on page 3.

I join with you in recommending that this policy statement be presented by the Task Force to Mr. Ruckelshaus in December.

Sincerely yours,

Kenneth E. McElroy, Jr

Kenneth E. McElroy, Jr.
Director, Planning and Analysis

KEM/cjk
cc: Mr. William M. Eichbaum
Ms. Linda Eichmiller

STATE OF MARYLAND

WATER QUALITY MANAGEMENT PROGRAMS

Program	Administering Agencies			Program		Forms of Nonpoint Source Pollution	Effectiveness
	Local	State	Federal	Type	Extent		
Maryland Agricultural Cost-Share Program	SCDs	Dept. of Agr. DHMH	-	VOL INCEN	State	Agriculture (soil, animal wastes, chemicals)	New (locally effective)
State support of SCDs	SCDs	Dept. of Agr.		INCEN	State	Agriculture, urban sediment (construction)	Locally
Maryland Agricultural Enforcement System	SCDs	DHMH	-	REG	State	Agriculture	Locally
Sediment/erosion control program	SCDs and counties (some towns)	DNR	-	REG	State	Construction, surface mining (resource extraction)	Locally
Septic system regulation	Local health departments	DHMH	-	REG	State	Land disposal	Locally
Surface mining program	-	DNR	-	REG	State	Resource extraction	Fully
NPDES program - industrial runoff	-	DHMH	-	REG	State	Industrial runoff	Locally
EPA Chesapeake Bay Program		DHMH & DNR	EPA	OTH (Assessment)	Region	All major sources	Locally
EPA National Urban Runoff Program	Wash. COG Balt. RPC	-	EPA	OTH (Assessment)	Region	Urban Runoff	Locally
EPA WQM Planning (§ 303e, 208, 205j)	Wash. COG Balt. RPC	DHMH	EPA	VOL	State	All major sources	Locally/partially
EPA Clean Lakes	Columbia; Baltimore Co.	DHMH	EPA	OTH (Assessment)	Local	Agricultural Urban Runoff	Locally
ASCS/SCS Rural Clean Water Program	Carroll Co.	DHMH (sampling)	ASCS/SCS	INCEN	Local	Agriculture	Locally
Maryland Agriculture NPS research	-	DHMH & Univ. of Md.	-	OTH (Assessment & research)	Local	Agriculture	Locally
Maryland Urban Stormwater Mgt. Program	Counties	DNR	-	REG	State	Urban runoff	New
Maryland Watershed Mgt. Program	-	DNR	-	REG	State	Hydromodification, construction on floodplain	Unknown
Maryland Tidal Wetlands Program (s)	-	DNR	-	REG	Region	Dredging, wetlands destruction	Unknown (partial)
Maryland Coastal Critical Areas Program	Counties	Crit. Areas Commission	-	REG	Region	Inappropriate development or other activities in defined critical area	New
Maryland Coastal Zone Mgt. Program	-	DNR	NOAA	VOL	Region	-	Locally/partially
Maryland Solid Waste Mgt. Program	Counties	DHMH	EPA	REG	State	Land disposal	Fully
Maryland Hazardous Waste Mgt. Program	Counties	DHMH	EPA	REG	State	Land disposal	Fully
Fisheries Mgt. & protection	-	DNR	Fish & Wildlife	VOL	Region	Hydromodification	Partially
Soil Conservation Program	SCDs	Dept. of Agr.	SCS, ASCS	VOL	State	Agriculture	Locally
Extension Service		Univ. of Md.	CES (USDA)	VOL	State	Agriculture	Locally
Abandoned Mine Program	-	DNR	OSM, SCS	VOL	Region	Acid mine drainage	Locally

Oklahoma State Department of Agriculture
Forestry Division

B.120-a

OKLAHOMA DEPARTMENT OF AGRICULTURE
2800 North Lincoln Boulevard
Oklahoma City, OK 73105
(405) 521-3864

Jack D. Craig	**Commissioner**
Clifford W. LeGate	**Deputy Commissioner**
Clyde A. Bower	**Asst. Dep. Commissioner**

1907

Directors

Charles W. Anderson	Administrative Services
Sue Cannon	Agricultural Laboratory
John Cochrane	Agricultural Statistics
Berkeley Peterson	Animal Damage Control
Robert Hartin, DVM	Animal Industry
Roger L. Davis	Forestry
George M. Parker	Marketing Industry
Dale O. Laubach	Plant Industry
Bob Daugherty	International Marketing Programs

October 26, 1984

Mr. Jack E. Ravan
Chairman
Federal-State-Local NPS Task Force
Office of Water (WH-556)
U.S. Environmental Protection Agency
Washington, D.C. 20460

Dear Mr. Ravan:

During the past six months, I have been a Task Force member to help develop approaches to managing nonpoint sources of pollution that would strengthen and improve our mutual efforts to address these problems at all levels. In addition, my agency has developed a strategy outlining ongoing and future nonpoint source management activities which will guide our forestry water quality management program in Oklahoma.

I believe the National Nonpoint Source Policy developed by our Task Force will help all of us better coordinate our approaches and programs. I join with you in recommending that this policy statement be presented by the Task Force to Mr. Ruckelshaus in December.

Sincerely,

Kurtis L. Atkinson
for
Roger L. Davis,
State Forester &
Task Force Member

OKLAHOMA DEPARTMENT OF AGRICULTURE
2800 North Lincoln Boulevard
Oklahoma City, OK 73105
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Bob Daugherty	International Marketing Programs

October 26, 1984

Carl Myers, Acting Director
Water Planning Division (WH-554)
U.S. Environmental Protection Agency
Washington, D.C. 20460

Dear Carl:

Enclosed is the final revision of our forestry NPS Strategy.

We found the reviews of our forestry NPS strategy at the Woods Inn workshop to be very helpful. We have provided additional discussion in the Strategy in response to the specific comments regarding evaluation of the clearcutting practice, consideration of regulatory and nonregulatory alternatives, and problem assessment. These additions are on pages 2 and 13-15, and in the problem assessment addendum.

We are submitting this draft of the strategy to the Oklahoma Pollution Control Coordinating Board for inclusion in the State's water quality management plan.

Sincerely,

Curtis L. Atkinson
for Roger L. Davis
Director

RLD:mem

cc: Vivian Daub w/enclosure

OKLAHOMA'S
STATEWIDE WATER QUALITY MANAGEMENT STRATEGY
FOR FORESTRY

208 Task 1104 Final Report

submitted by

Oklahoma State Department of Agriculture

to

Oklahoma Pollution Control Coordinating Board

October, 1984

PREFACE

This Strategy presents the program of activities necessary to meet the water quality management responsibilities of the Forestry Division of the State Department of Agriculture as established in the Forestry Code and as delegated in the State's water quality management program. While the principal responsibility lies with the Forestry Division, the program is basically cooperative with landowners and other agencies. Substantial contributions have already been provided by other sources. Large investments in research of direct value to the program have been made by Weyerhaeuser Company. Major current research projects in Arkansas by the Southern Forest Experiment Station are contributing directly to information needs in Oklahoma. Cooperative activities in research and extension with the O.S.U. Agricultural Extension Service are underway and will be continued. Important consultative support on program activities, in several instances involving travel, on-the-ground participation by personnel and lending of equipment, has also been provided by the Agricultural Research Service, Agricultural Stabilization and Conservation Service, O.S.U. Department of Agricultural Engineering, O.S.U. Department of Statistics, Corps of Engineers, Oklahoma Geological Survey, Soil Conservation Service, Southern Forest Experiment Station, State and Private Forestry (U.S. Forest Service), University of Arkansas (Monticello), University of Oklahoma Biological Laboratory, U.S. Geological Survey, and member agencies of the Pollution Control Coordinating Board. Landowners have provided complete cooperation in surveys. The Oklahoma Forestry Association and other landowner organizations have also been directly supportive. Other continuing actions to insure needed cooperation include a Forestry Division water quality advisory committee made up of other agency representatives, an interstate (Ark-Okla) management-research committee, participation in the Renewable Resource Extension Act advisory committee of the O.S.U. Extension Service, and a joint commitment with the Oklahoma Department of Wildlife Conservation to cooperate on identifying and supporting research and development needs in common areas of interest. The cooperative nature of Oklahoma's program is essential to its overall success.

Forestry Strategy

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Oklahoma's
Statewide Water Quality Management Strategy For Forestry

PURPOSE

The forestry water quality management strategy describes the approach to forest resource management being followed by Oklahoma to protect and enhance water quality. The elements included in this strategy constitute a framework for coordinated forest resource and water quality management. The strategy identifies and ranks those activities which are needed to operate a forest resource management program suitable for both public and private forest ownerships. The document also describes the resources and time frame necessary to achieve a successful program. Finally, the strategy provides a basis for coordinating the forestry water quality effort with other water quality management programs in Oklahoma. The strategy is a dynamic document and will be periodically updated as future conditions warrant.

BACKGROUND

Forestry Programs in Oklahoma

While Oklahoma is most often characterized by its oil, wheat and cattle resources, forest lands and timber production are a significant resource to the state. Forest lands occupy in excess of 10 million acres or roughly 23% of Oklahoma's total land area. Of this area over 4 million acres are classified as commercial forest land, with the majority located in the eastern portion of the state. The ownership of these commercial forest lands is mostly private with approximately 2.8 million acres (64%) in non-industrial ownership and slightly less than 1 million acres (23%) owned by forest industry. The remaining 500,000 acres (13%) are in public ownership.

Commercial timber harvest and production are concentrated in the southeastern corner of the state. McCurtain, Pushmataha, LeFlore and Choctaw counties account for 94 percent of the state's timber production with nearly half the total production in McCurtain County alone. The timber processing industry is similarly located in or near these areas of greatest production. Because of this geographic concentration of forest resources and production, forest management programs, while statewide in scope, are primarily directed toward southeast Oklahoma forest lands.

The responsibility for administering Oklahoma's forestry program is vested in the Forestry Division of the State Department of Agriculture by the Oklahoma Forestry Code

(2 O.S. 1971, Section 1301) (6). The Code authorizes a broad, cooperative program of education and action in the protection and use of Oklahoma's forest resources. This program is operated by Forestry Division field personnel located in offices throughout the state. In addition, many other forestry professionals employed by the U.S. Forest Service, other agencies, forest industry and by private landowners are involved in forest resource management. While a wide variety of activities are undertaken by Forestry Division personnel, technical assistance to landowners in planning and managing the use of forest lands as well as the development and dissemination of educational materials are of special significance to water quality. As will be described, these activities are major vehicles for accomplishing water quality objectives.

Forestry and Water Quality

The use of Oklahoma's forest lands for timber production is a significant economic contribution to the state. However, improper forestry practices may result in adverse environmental impacts. With the advent of regeneration clearcutting as a principal method of timber harvest in Oklahoma, the timber industry was brought dramatically into the public's view. The scrutiny that accompanied this change resulted in broad accusations of environmental damage by some groups. In 1975, then-Governor David Boren directed a study in southeastern Oklahoma to determine the water quality effects from intensive forestry practices. That study, together with water quality research and development efforts funded under section 208 of the Federal Clean Water Act, initiated Oklahoma's forest water quality program.

Before describing the program, it will be useful to consider other water quality efforts associated with forestry. In states with larger forest resources the impacts of forest practices on water quality have been studied extensively. While many of these studies centered on sedimentation as the primary post-harvest problem, other pollutants (nutrients and pesticides, for example) were also considered. The impact of forest harvest on aquatic communities has also been examined in several regions. Additionally, most states were required to develop a silvicultural 208 plan under the provisions of the Clean Water Act. These studies and plans had a common shortcoming for use in Oklahoma - they were limited to the local conditions (geographic, geologic, environmental, economic) that existed in each study area. While much has been learned from these past efforts, development of information specific to Oklahoma's forestry operations remains necessary.

Oklahoma's water quality program activities are centered on two basic premises: (1) water quality will benefit more by incorporating water quality considerations into prior planning and implementation, rather than by later corrective action; and (2) in the principal forest resource management activities, water quality protection is best accomplished through nonregulatory application of accepted practices on a site-specific basis. Each site is unique, and requires planning and selection of a combination of currently accepted management systems and practices to permit resource utilization in harmony with water quality protection. This approach to implementation will be continued in future efforts of the Forestry Division and is basically the same for the forest industry in southeast Oklahoma. Major challenges to implementing the program are: (1) educating landowners and operators, (2) developing incentives and management support for non-industrial private ownerships, and (3) increasing public and industry support.

STRATEGY

Goals and Objectives

The primary goal of Oklahoma's forest water quality management program is to protect water quality while effectively managing and utilizing the state's forest resources. This is being accomplished through continued development and use of the State Forest Resource Plan in cooperation with forest landowners and other agencies.

A secondary, but important, goal has resulted because of public misconceptions concerning the forestry/water quality issue in southeastern Oklahoma. The existing misconceptions limit the acceptability of some sound practices by special interest groups and the public in general. For example, clearcutting is viewed as environmentally destructive by some, and yet is a necessary management system for many species of trees and has not been found inferior to other systems in maintaining water quality. Misinformation and resulting controversy haveexacerbated problems of incendiarism, indiscriminate dumping and other forest vandalism. The goal in this regard is to develop an adequate public understanding, by developing and presenting public information programs which clearly describe forest development and use in southeastern Oklahoma, and the resulting relationships with water quality.

The Strategy describes nine objectives in five major categories of Oklahoma's forest water quality management program in addressing identified needs, and in achieving state goals. Activities and time frames are listed under each. These will serve as guidelines for the Forestry Division during its annual work plan development and update of the State Forest Resource Plan (7) in Fiscal Years 1985 and 1986.

I. Training and Education

A. Water Quality Management Training

Management practices have been developed or modified for water quality goals, but cannot achieve these goals unless properly planned and applied in forestry operations. Forest landowners, managers, loggers and contractors make the applied management decisions, and therefore must be fully aware of the potential for forestry practices to affect water quality, and of the actions needed to minimize problems. Both public agency and private managerial potentials must be developed. The Forestry Division's 208 task 1103 (BMP Education) (8) included presentation of two workshops for foresters, and development of slide programs for forest managers and the general public, a Field Guide for managers,and a booklet for landowners. These materials will be broadly distributed and utilized wherever opportunities permit. The BMP Guidelines developed in 208 task 152 (2), need to be produced in a format more suitable for landowner use.

Objective 1: Prepare and present training programs and other information designed to inform forest landowners, contractors, loggers and forest managers on the selection and application of management practices for water quality protection.

Activities 1.1 Develop a simplified booklet format of the BMP's for distribution to landowners.(FY85)

1.2 In cooperation with Oklahoma State University, develop a series of water quality management guidesheets, which describe particular practices. These will be used by Forestry Division foresters in management plans for landowners. (FY85-90)

1.3 Provide copies of the landowner booklet to Forestry Division offices statewide.(FY85)

1.4 Improve the Field Guide and distribute changes to guideholders as needed.(FY85 and continuing)

1.5 In cooperation with Conservation Districts and the Extension Service, develop training opportunities where groups of landowners, managers, loggers or operators can be reached, such as tree farm tours, RC&D landowner seminars and field days, and monitor progress. (FY85 and continuing)

1.6 In cooperation with Extension, use OSU's landowner survey list for mailings of water quality and forestry information, and the basis for landowner contacts. (FY85-86)

B. Public Information and Education

Operation of an effective and comprehensive information/education program on a statewide basis oriented toward the general public is another vital aspect of the Forestry Division's program. This was identified as a high-priority issue in the State Forest Resource Plan, and news articles, media contacts, and group programs are developed frequently. It is important for the public to recognize current efforts in the forestry/water quality area, and to realize their own responsibility in protecting water quality. A slide program for this purpose was developed by the Forestry Division in 208 task 1103. The Oklahoma Wildlife Federation has also produced a slide program on forestry and water quality for general audiences.

Objective 2: Prepare and present a comprehensive public information and education program designed to provide insight concerning forest water quality efforts and services available through the Forestry Division and other agencies.

Activities 2.1 Provide copies of the general public slide program to the Forestry Division offices in eastern Oklahoma, and schedule its use in schools, civic groups, and where other opportunities permit. (FY85 and continuing)

2.2 Prepare periodic newspaper and media releases to inform the public of program activities and services available from the Forestry Division. (Continuing)

2.3 Develop a display on forestry and water quality for use at the Forest Heritage Center, which can also be used at other events. (FY85-86)

2.4 Annually, identify opportunities in each Forestry Division Area for activities 2.1-2.3, and schedule them into annual work plans.

C. Demonstration Areas

The Forestry Division's 208 task 710 (5) selected a 5500-acre watershed (Clayton Lake in Pushmataha County) for development as a forestry water quality demonstration area. In cooperation with OSU, which has three small experimental watersheds in the area, instream monitoring is establishing a data base to detect changes in water quality caused by treatments on the watershed. A needs inventory and management plan were developed in the task, with assistance from a BMP field exercise in a task 1103 manager's workshop. From this, a three-year implementation schedule will be planned to install needed practices and monitor changes in water quality. Because of its mixed ownership, the diversity of practices, the monitoring and research underway and its location, the watershed will lend itself well for use as a training and demonstration area for forest managers, landowners, and operators. Photographic points are established to further document changes on the watershed as management practices are applied, as well as providing examples of the BMP's. Emphasis is being placed on the development and use of additional demonstration sites on small private ownerships. This approach is a proven extension education technique which promotes local leadership and offers opportunity for interagency cooperation.

Objective 3: Develop and operate a model demonstration area designed as an example of coordinated forestry operations and water quality protection.

Activities 3.1 Implement the planned water quality management practices on the Clayton Lake watershed in cooperation with forest industry, landowners, and OSU. (FY85-87)

3.2 Continue instream water quality monitoring on Peal Creek to measure the effects of implementing the plan on Clayton Lake watershed. Some trends should be evident within two years of practice completion. (FY85-90)

3.3 In cooperation with OSU and other agencies, operate Clayton Lake watershed as a model demonstration area for use in education and training programs, through annual reassessment of needs, continued monitoring and evaluation of practices, and scheduling use by university classes and workshops for managers and landowners. (Continuing)

3.4 Establish a photo record survey on Clayton Lake watershed to track progress. (FY84 and beyond)

3.5 Use the Clayton Lake watershed plan and experience to expand the inventory/planning/implementation procedure to a county-wide test basis. (FY86-87)

3.6 Develop new small-scale demonstration sites along with appropriate signs and handout materials to exhibit good examples of water quality management practices, and operate as described in 3.3. (FY86-90)

II. Application

D. Practice Application and Technical Assistance

208 task 710 recognized that most forest industry owners realize the economic good sense in protecting the soil resource, are committed to water quality management through application of BMP's, and are better able to afford water quality considerations on their lands. However, 64% of eastern Oklahoma's commercial forest land is owned by about 20,000 nonindustrial private landowners, with a high percentage of absentee owners. Landowners in the remainder of the state also have opportunities for forest management, often on fragile soil. Each owner has different objectives for his property, and different capabilities in its use. Identifying and targeting high-priority landowners will increase the effectiveness of technical assistance efforts. Major problems many of these landowners face are lack of awareness, economics and lack of control over their property. Reaching this diverse group of landowners with information, as well as providing foresters for on-site decisionmaking and assistance, is vital to program success. Financial incentives exist for improved forest management. However, the cost of BMP installation is borne solely by the landowner, despite the public benefits of water quality protection, widespread public use of roads, and forest products. In some cases, cost-sharing may be needed, particularly for road rehabilitation problems. Tree planting on critical areas has also proven effective in reducing soil erosion. There are also opportunities on state-owned forest land for improved water quality management.

The Forestry Division operates 15 offices statewide where professional foresters are available to provide forestry assistance to landowners. In addition, two staff forest hydrologists work with these foresters, as well as forest industry, universities, and other agencies on the water quality program. 89 Conservation Districts also provide technical assistance to landowners for soil and water conservation purposes. Increased forestry assistance was identified as an important issue in the State Forest Resource Plan.

Objective 4: Assist with the installation of effective water quality management practices through technical assistance to landowners.

Activities 4.1 Provide technical assistance to forest landowners by preparing forest management plans containing specific water quality considerations, and through other assistance. (Continuing)

4.2 Provide information and technical assistance to the forest industries in the state to insure adequate consideration of water quality in their management programs. (FY85 and continuing)

4.3 Prepare forest management plans for state-owned lands, where applicable, which incorporate water quality. (FY85 and continuing)

4.4 Propose and evaluate a pilot cost-sharing program to provide landowner incentives for water quality protection, particularly for road rehabilitation needs. (FY87)

III. Program Effectiveness

E. Water Quality Monitoring

Forestry Division water quality monitoring was initiated in 1976 and continued through 1981 in 208 task 223 (9). Water sample analysis from 20 headwater streams showed elevated levels of turbidity and suspended solids, associated with both disturbed and undisturbed watershed conditions, during stormflow periods. However, the levels of turbidity and suspended solids were consistently higher in streams associated with watersheds where recent road construction had occurred. Concentrations of insecticide residues were below detectable limits for the limited number of samples tested. Major points of the task included the recognition of "impact" on water quality resulting from forestry operations, primarily as a result of new road construction. However, several important questions were raised concerning the nature of this impact, and the adequacy of existing sampling methods for establishing ambient water quality, and of the existing water quality standards for nonpoint source application.

Forestry Division 208 task 242 (3) compared water quality data from different sampling methods on the same streams. Results showed significant differences in "ambient water quality," at a given point in time, depending on the sampling method employed. The questions of when to sample (with respect to flow conditions), where to sample (with respect to stream geometry) and how to sample (given the variety of sampling instruments available), were cited as important research needs. The task also provided valuable information on streamflow and sedimentation behavior. Task 223 demonstrated the need for improved sampling techniques to reduce data variability. Task 242 results indicated alternatives to be examined for such improvement. The studies together demonstrated the need for sound statistical design in developing practical NPS water quality standards.

208 task 1102 (1) studied the effectiveness of selected BMP's and concluded that the practices examined were compatible with state water quality goals. Task 1101 (10) established baseline biologic data on aquatic communities in several locations as an initial step in biologic monitoring in forested areas, and found subtle short-term changes which appeared to be related to sedimentation impacts. Task 1101 had the same inherent limitation as experienced in task 223; i.e., the inability to make direct relation of instream results to a specific upstream practice on a watershed. Both studies identified the need for an integrated and coordinated examination of the hydrology and biology of selected sites in Basin 4 to establish the long-term effects of intensive forestry practices on water quality, stream habitat and the designated beneficial uses.

Public input into the State Forest Resource Plan also identified water quality as an important issue, and monitoring as a necessary aspect of the overall program. These concerns about water quality in the region necessitate some form of monitoring program to identify significant changes, detect potential problems and establish trends.

A continuing water quality monitoring program is needed, essentially to insure that the beneficial uses are protected. The monitoring effort should be directed specifically to identifying water quality trends or problems associated with forestry, to providing additional basis for the development of operationally useful water quality standards, and to coordination with biologic monitoring. Because of the long-term nature of the forest production cycle, the monitoring program will be long term as well.

Objective 5: Continue the operation of a water quality monitoring program in areas of forestry activities for both hydrologic and biologic variables.

Activities 5.1 On the Glover River or a comparable watershed, establish long-term monitoring stations at lower, middle, and upper points in the watershed, as a cooperative effort between forestry and wildlife agencies, and forest industry. Develop aquatic community indices for each station to use in assessing changes over a 10 to 20 year period. Hydrologic and water chemistry measurements will detect changes and help determine if they are silviculturally related. (Initiate during FY85 and continue long-term)

5.2 As needed, using established criteria (and considerations of cost and logistics), select streams previously monitored in tasks 223 or 242 for low-intensity, long-term trend monitoring of water quality. (FY86 and continuing)

5.3 Evaluate and interpret monitoring results using statistical methods to identify trends and stream-specific problems. (Continuing)

5.4 Prepare an annual assessment and summary of forest water quality based upon the water year. (Annually in December)

5.5 Periodically evaluate the application of forestry pesticides (herbicides and insecticides) and their effects on water quality. Establish a continuous surveillance of pesticide use and fish kills on a selected upper basin (Mt. Fork), in cooperation with forest industry, ODWC, residents and stream users. (FY86-90)

F. Management Practice Effectiveness

Oklahoma's Best Management Practices were developed initially by Governor Boren's Blue Ribbon Panel on Forestry in 1976, primarily using established principles, research results from other areas, proven practices, common sense and experience.

Instream monitoring for possible pollution from pesticides has been conducted by the Forestry Division and Plant Industry Division, with negative results. However, periodic evaluation of pesticide applications will be necessary. Research on harvest-regeneration practices by Weyerhaeuser Company, and also in Arkansas by the University of Arkansas (Monticello) and the Forest Service, demonstrate the effectiveness of clearcut harvest-regeneration practices in controlling erosion and thus protecting water quality. The Forestry Division's task 710 provided valuable information on the sedimentation effects of forestry practices on Clayton

Lake. Forestry Division task 1102 provided the first available quantitative information on the effectiveness of current road BMP's in limiting sediment contribution to streams. Task 710 also provided additional data on the effectiveness of clearcut harvest-regeneration practices. Results of these studies generally have proven the effectiveness of these BMP's for minimizing adverse effects on water quality, but also pointed out modification needed in the Guidelines.

Completion of the established research studies and the scheduled continuation of the task 1102 studies on roads and clearcut harvest-regeneration practices should provide a sufficiently thorough evaluation of many of these practices. However, other practices remain to be adequately evaluated.

Task 1102 indicated roads to be substantially higher producers of sediment than either harvested or unharvested watersheds, the most critical area being stream crossings. Using the 1102 road study as a starting point, different treatments will be applied and monitored to determine their effectiveness in reducing road sediment. Effective practices can then be operationally applied on critical sites, such as at crossings or where roads are necessarily located near streams.

The inventory completed by 208 task 710 revealed an important need in old road rehabilitation on the watershed. During the initial logging of the area, roads and trails were pushed out where needed, often up drainage channels. Some of these roads are still contributing to nonpoint source pollution. Similar observations have been made throughout southeastern Oklahoma, in connection with surveys to establish the monitoring program, and other Forestry Division activities.

The economic situation of many small private landowners precludes major investments in water quality protection. It is often difficult to convince landowners to use part of their harvest income to regenerate their lands, much less to invest in protecting water quality. Development of effective, low-cost water quality practices which landowners can perform themselves was identified as an important need in task 710.

Unresolved differences in viewpoint exist about streamside management practices. Three different sets of streamside management guidelines are currently operative in Oklahoma: (1) State BMP Guidelines, now part of Oklahoma's Water Quality Management Plan; (2) Weyerhaeuser Company Guidelines; and (3) U.S. Forest Service guidelines, which are applied to National Forest lands. The latter two contain provisions for the benefit of aesthetics and wildlife, in addition to requirements for water quality; e.g., they provide for standard minimum SMZ widths, for aesthetic and wildlife benefits, but not necessarily for water quality. The task 1101 report and the National Wildlife Federation Blue Ribbon Committee recommended minimum-width zones, but without on-the-ground information to evaluate factors relating to actual water quality needs (such as the degree in a given stream reach to which sediment is contributed in channelized versus surface flow). Alternative SMZ practice prescriptions need to be evaluated in on-site studies as to their effectiveness in minimizing NPS pollution.

When necessary and appropriate, based upon practice effectiveness studies and experience, the BMP guidelines will be refined and updated.

Objective 6: Continue to evaluate the effectiveness of water quality management practices for forestry.

Activities 6.1 Continue the BMP-effectiveness study on forest roads begun in task 1102, evaluating where possible, variables such as road slope, soil characteristics, traffic and ground cover. Install different treatments on road segments and side slopes and measure the effects by comparing with predicted values using the calibration models developed in task 1102. (FY85-90)

6.2 Continue monitoring on 1102 harvest-regeneration practice study. (FY85-86)

6.3 Using studies on revegetation on the 1102 road study, develop or refine guidelines for stream or drainage crossings which minimize direct entry of sediment into streams. (FY86)

6.4 Develop and test low-cost practices such as rock check dams, rock surfacing at crossings, and the use of slash; refine the BMP's accordingly; and prepare and disseminate water quality guidesheets describing the practices. (FY85-90)

6.5 On a county test basis, perform a needs inventory for forest road rehabilitation. (FY86-87)

6.6 In conjunction with the annual assessment of forest water quality, refine and update the BMP guidelines and technical specifications, based upon practice studies and experience in their use. (Biennially)

6.7 In conjunction with forest industry and other agencies, define more precisely the water quality benefits of specific streamside management practices. (FY85-90)

6.8 Establish additional photo-record points (FY 85-90)

6.9 Establish studies to evaluate use of tree vegetation in gully control and stream bank protection. (FY 85-90)

G. BMP Implementation Effectiveness

Oklahoma's choice of a nonregulatory approach in NPS management relating to sediment is based on a thorough examination of the practical economic, managerial, social and institutional aspects of nonregulatory versus regulatory program alternatives. This analysis for forestry NPS management is presented on pages 45-71 of Oklahoma Forestry Division Resource Bulletin 1 (11). The following comments apply specifically to forest practices in NPS management other than use of pesticides.

The factors and issues involved in relative desirability and effectiveness of regulatory versus nonregulatory approaches are several, and some are quite complex. These factors were examined on a comparative basis in Resource Bulletin 1. The publication also included a partial record (pages 51-52) of correspondence between the Director of Oklahoma's Department of Pollution Control and EPA concerning the acceptability (to EPA) and the advisability of the nonregulatory approach in Oklahoma. Discussions of this issue at federal and in-state levels have been hampered by simplistic concepts about the considerations involved, particularly among those who have not had direct, on-the-ground experience in NPS management implementation.

The complexity of such a choice and the comprehensive nature of analysis called for may be at least generally perceived from the following outline of the principal considerations and factors examined by Oklahoma in deciding on its nonregulatory policy.

A. Opportunity and flexibility for developing a comprehensive systems approach to NPS management implementation, particularly in (a) adequate recognition of relevant economic, social and managerial problems, and

decision questions concerning social benefit trade-offs; (b) application of management science approaches and proven extension techniques to resolve management problems; and (c) developing the large potential in private managerial resources, particularly on nonindustrial private ownerships.

B. Equitable site-specific NPS management practice prescriptions, through recognition and analysis of social, economic and managerial variables as well as the technical aspects.

C. Political and social acceptability within the State.

D. Favorable agency-producer cooperative relationships through positive approaches in cooperative extension and use of management science techniques to develop local leadership and attain a high maturity level (in situation-leadership terms, this condition cannot exist with coercion).

E. Promotion of long-term program effectiveness by:

(1) emphasis on upgrading managerial resources and decision-making through
    (a) professional training and management extension,
    (b) solving management problems including trade-off aspects,
    (c) maintaining cooperative agency-producer relationships, and
    (d) improvement in site-specific prescriptions; and

(2) minimizing action alternatives that tend to be negative to or divert program resources from any of these activities.

F. Adequate recognition of the several social and management-development aspects of program progress, as well as the technical, in program-effectiveness evaluation.

G. Complexity of the implementation program, and of evaluation of program progress.

Our analysis found the nonregulatory approach to be more positive, and also superior for Oklahoma's political, social, and economic conditions in all respects listed, with the exception of G. Concerning the latter, the nonregulatory program is necessarily more complex in order to meet the State's responsibilities and the evaluation requirement of the Clean Water Act, and thus the evaluation process is more complex and difficult. The time-frame required to measure progress on some phases will be longer than that which would be required for enforcement activities.

A regulatory approach, if it is adequately funded, would have the advantages of an acceleration of some practice implementations, and the relative ease, from the enforcement agency standpoint, of enforcing a set of highly standardized practices, and evaluation of progress in terms of number of inspections, permits issued, etc. However, as examined in considerable detail in Forestry Division Resource Bulletin 1, a regulatory program has inherent shortcomings relating to the considerations outlined. Among the limitations are the large investments in enforcement which could otherwise be made available for use against management obstacles, and inherent tendencies to overlook important system interactions and trade-off relationships, and to standardize excessively.

An assumption usually stated or implied by regulatory proponents is that, simply because practices can be enforced, the regulatory approach will necessarily be more successful. However, for success in terms of maximizing net social benefits in the long term, which should be the basic goal of any public resource management program, no established basis for such an assumption is evident when the considerations outlined are carefully examined. In such an approach, trade-off relationships with other social benefits and system interactions that affect net benefits tend to be ignored, or viewed as somehow not relevant to water quality management decisions. As a consequence, practice prescriptions tend to be standardized and applied without regard to the need to design alternatives to suit differences in social and economic factors at the local site level. Resulting inequities are likely to be frequent. Furthermore, because of the dependence on enforcement, there is less impetus for addressing ownership-specific conditions of a social, managerial or financial nature that limit practice acceptability and may cause undesirable side-effects (on other social benefits) of enforcement. Specific and important instances of such conditions in Oklahoma are the widespread free public use of small private forest tracts, and limited control, higher costs and relatively high risk for absentee landowners in this situation.

Some of these findings on basic program choice are clear in simple logic. Others are based to some degree on judgment, but also on (a) the well-founded position that a relatively broad and flexible approach to environmental aspects of resource management is needed to properly balance the several social benefits involved; (b) recognition of the political and social character of the State; and (c) a long and successful history of cooperative conservation actions among resource agencies and producers in the State. The soundness of the basic approach is also supported by the experience of the generally good quality of practices which have been used and are being applied by forest industry and other owners who are committed to timber production on a long-term basis (as indicated by previous practices monitoring and results of 208 tasks 1102 and 710), and by the fact that every landowner has a long-term interest in protecting the soil, even though he may not be sufficiently aware of it.

The program is also based on the following premises:

(a) landowners who are not following good water quality management practices can be induced to do so by education to develop awareness of need and knowledge about practices, and through a variety of incentives, including technical assistance, management support, the "regulatory relief" argument, and cost-share funding;

(b) loggers, timber buyers and others who apply or influence practices can also be induced to better practices through education and particular incentives;

(c) carefully applied peer example and peer pressure have been found effective in other states and there are indications they are working in Oklahoma;

(d) appeals through education to interest landowners in protecting the environment are expected to be effective, particularly when applied in conjunction with other approaches as outlined.

(e) there is a large potential for developing local leadership.

In 1978, the Forestry Division implemented an on-site monitoring program to determine whether BMP's were being properly applied. This program was discontinued after reporting to Governor Boren that, although needs for improvement were identified, water quality management on most forest industry lands in southeastern Oklahoma was generally being applied in accordance with the BMP's. Some form of on-site practice monitoring will be needed as a measure of program effectiveness.

Measuring improvements in water quality management implementation is a difficult task facing the Forestry Division. Practical and objective measures must be developed and applied. These measures must meet Oklahoma's needs in program evaluation, and also those of EPA in its program oversight activity. In this connection, Oklahoma's State Forester and Forest Hydrologist are currently involved in a national task force which will develop guidance on nonpoint source management for EPA. Measures of progress will be one area considered.

Objective 7: **Evaluate the effectiveness of the Forestry Division's water quality management program.**

Activities 7.1 Develop and implement a procedure to monitor practice needs and compliance as an aid in program evaluation. (FY85-86 and continuing)

7.2 Review the impacts of Forestry Division activities on water quality, such as in road construction and maintenance, and fireline construction, and recommend changes where indicated. (FY85)

7.3 Develop a methodology for evaluating the effectiveness of the forest water quality management program utilizing instream water quality data and trends, as well as measures of progress in practice installations. (FY85-86)

7.4 Periodically evaluate the program in coordination with annual work plan development and the annual water quality assessment. (Biennially)

7.5 Participate in the EPA task force on NPS guidance. (Complete by Dec. 1984)

IV. Research and Development

H. Research and Development

Substantial research in forest hydrology and on water quality management questions has been accomplished recently in Oklahoma and in some land resource areas in Arkansas where results are generally applicable to Oklahoma conditions. The relatively advanced state of information on clearcut harvest-regeneration practices was previously noted.

Additional important research and development needs exist in several areas. The principal needs can be grouped as:

(a) basically hydrologic in nature and methodology, including basic processes, sampling methods, modeling, classifications, and practice design;

(b) interdisciplinary hydrologic-biologic questions; and

(c) methodology and data development needs in the implementation program. These needs and information on accomplishments and current and planned activities and the planning documents relating to them are outlined in Table I.

TABLE 1. RESEARCH AND DEVELOPMENT NEEDS FOR OKLAHOMA'S FORESTRY WATER QUALITY MANAGEMENT PROGRAM

& D Needs	Where Initially Identified[1]	Partly Accomplished or Underway By:				Proposed By:[2]				Not Yet Proposed[3]	Notes
		For. Div.	Weyco	OSU	Other	For. Div.	Weyco	OSU	Other		
Hydrologic in Nature											
. Instream water quality sampling methods	R.B. 1[4], 223, 242	X									1. To improve sampling methods for establishing trends.
2. Design of NPS water quality standards	As above	X									2. Including sampling methods, establishing natural background, developing design data, etc.
3. Stream classification	R.B. 1, 242, 223, Weyco, OSU S. Plans					X	X	X			
4. Behavior of hydrologic processes	As above	X	X	X							4. Includes a substantial range of important weather, watershed and streamflow processes: ET, sedimentation, variable source runoff, etc.
5. Predictive modeling											
(a) Integrated watershed basis	As above, & 117	X	X	X							5. (a) Including supporting instream studies, use o results of 5(b), potential for cumulative e etc.
(b) On-site practice basis	R.B. 1, 1102, Weyco, OSU S. Plans	X	X	X							(b) Involving stormflow and sedimentation process SMZ variables, practice interactions, etc.
6. Practice design and effectiveness											6. To provide quantitative data; will lead to 5 (b).
(a) Road	710, 1102	X	X					X			
(b) Harvest-regeneration	1102, Weyco & OSU Study Plans	X	X	X							
(c) Pesticide use	R.B. 1, 223, Weyco & OSU Study Plans		X					X			
(d) Grazing	1102, Weyco Study Plans		X								
(e) Streamside management	R.B. 1, 223, 1102, Weyco, OSU S. Plans		X	X		X					6. (e) Including practice prescriptions for water quality, stream temperature studies, etc.
(f) Gully erosion control	710, F.D./SWPF Study Plans	X									(f) Using vegetation and other low-cost techniques.
7. Erosion and sedimentation (a) USLE evaluations	106, 218	X						X			7. (a) To establish appropriate uses of USLE as an evaluation and educational tool, and to improve the method.
(b) Road erosion indices	710, Weyco	X	X								(b) For use in watershed and practice needs inventories.
(c) Long-term rates	710	X			X						(c) Incl. lake sedimentation and cesium-137 studies; cooperative with Agri. Research Service.
8. Watershed inventory and stratification	R.B. 1, 223, 710	X									8. Including response-unit identification develop ment of variable source-area data, etc.
9. Acid precipitation	OSU Study Plans			X							
10. Nutrient cycling	Weyco & OSU Study Plans		X	X							
B. Biologic (Including inter-disciplinary biology-hydrology)											
1. Establishment of baseline data on aquatic communities	1101				X						1. OK Dept. Wildlife Cons. Task 1101.
2. Identification of most limiting conditions	R.B. 1, 223									X	2. High priority; prerequisite to development of adequate water quality standards.
3. Relation of biologic indices to sedimentation trends	1102									X	
4. Identification of biologic changes associated with road and silvicultural practices	1101				X						4. Established in 1101 study on general indirect basis only—methods did not allow direct cause-effect relation to specific practices.
5. Synthesis of available biologic and hydrologic information	223, 1102									X	
6. Coordination of biologic and hydrologic studies	R.B. 1, 223									X	
C. Implementation Program Needs											
1. Overall program evaluation methodology	710, 1104	X									
2. Practice needs inventory and monitoring methodology	710	X						X			2. Including road classification and inventory.
3. Economic and social factors	R.B. 1, 710, OSU Study Plans	X	X	X							3. Potential need for wide range of management sc ence and other methodology in evaluating benef and trade-offs and addressing NIPF obstacles
4. Ownership and forest inventory data	106, 710	X		X							

[1] Numbers refer to 208 task final reports.

[2] Initial or additional work formally proposed.

[3] Need identified but not yet proposed in study plan form.

[4] Forestry Division Resource Bulletin 1.

To a major degree these activities are cooperative, involving primarily the Forestry Division, Oklahoma State University and Weyerhaeuser Company. Cooperation is maintained through frequent consultation and reviews. Overall program needs and priorities were discussed at a recent meeting of forest hydrologists representing these three entities. By consensus, the principal areas for priority in hydrologic research were listed as BMP's, pesticides, acid precipitation, basic hydrology, stream characteristics and processes, stream classification and hydrology-biology interdisciplinary questions.

Current or planned research and development activities not already described are listed below. The list is limited to activities in which the Forestry Division is or will be directly involved. Research activities by other organizations as listed in Table I are also being continued. As Table I indicates, several areas remain to be addressed, particularly relating to biologic investigations.

Objective 8: **Identify and support research and development activities needed to accomplish water quality program objectives.**

Activities 8.1 Continue the identification, review and support of research needs to improve the forest water quality program, in full cooperation with universities, forest industry and others. This will include development and continued updating of a program analysis of research and development needs. (Continuing)

8.2 Develop improved methods of instream sampling to reduce costs, reduce data variability and shorten time frames for establishing trends. This task will also contribute to the development of practical and realistic water quality standards for NPS application. (FY86-88)

8.3 Continue development of basic information on instream sedimentation and related hydrologic processes. (Continuing) 8.2 and 8.3 will include continuation of the studies initiated in 208 task 242, and will include development of joint hydrologic-biologic studies where feasible.

8.4 Evaluate and refine streamside management zone practice guidelines. (FY86-87)

8.5 Develop systems for watershed, stream and road classifications to aid in assessing water quality and in implementing management recommendations. (FY86-88)

8.6 Develop and refine predictive models to estimate soil erosion and water quality. (FY86-90)

8.7 Evaluate the USLE methodology: (FY85-86)
  (a) as an educational tool to develop awareness of erosion problems;
  (b) as a potential tool for problem identification and evaluating progress; and
  (c) for opportunities to improve the method.

8.8 Expand the Forest Service forest inventory statewide. (by FY88)

V. Administration

I. Coordination and Planning

Coordination of statewide programs performed by different agencies and groups is important to reduce duplication, improve efficiency and promote cooperation. The Forestry Division, by statute, is the agency designated to administer Oklahoma's forest water quality program. However, there are other agencies in the state which are interested in this issue, or which have other NPS responsibility. There are opportunities for better coordination between agencies on NPS matters.

A particular need for interagency coordination lies in developing more realistic and useful water quality standards for NPS application. As discussed in Resource Bulletin 1, and in the reports of 208 tasks 147 (4), 223, and 242, high data variability, limitations in sampling methodology, and lack of data on natural background levels severely limits the usefulness of the turbidity standard as written. The Conservation Commission has similarly noted limitations in use of the existing standards for NPS situations.

The experiences and results of the 208 program point up an important need for improvement in interagency cooperation on NPS pollution concerns. Such improvement can and should be accomplished through the establishment of a continuing interagency task force or study group, for the purpose of promoting cooperation in addressing current issues and developing projects of common interest. Immediate projects should include development of a coordinated plan and methodology for improving water quality standards for NPS applications. This project would necessarily involve the identification and promotion of the studies in aquatic biology which are prerequisite to the development of meaningful and realistic standards.

The State Forest Resource Plan was based on extensive public inpuc, and includes a major section on water quality. This planning effort should continue, during the FY 85 update and beyond.

Objective 9: Coordinate forest water quality management programs with the state water quality management plan and other planning efforts.

Activities 9.1 Provide forest water quality input into the statewide water quality management plan, 305(b) report, Continuing Planning Process, the water quality standards, and the Forestry Division's State Forest Resource Plan. (As needed)

9.2 Update the Forestry Strategy. (As needed)

9.3 Maintain good working relationships with forest industry, consultants, universities and other agencies to improve awareness, coordinate activities and cooperate toward mutual objectives. (Continuing)

9.4 Coordinate an annual meeting of an interagency task force on NPS pollution to promote cooperation and develop projects of common interest. (FY85 and Continuing)

Activity Milestones

The Strategy is intended as a balanced program including both short-term, long-term and continuing activities. Tables II and III list the activities according to an approximate time frame for completion or initiation. "Continuing Activities" are those of a policy nature, or are ongoing. Also noted in Table II (*) are those activities which can be carried out with current funding (FY85 base), and those where forest industry or universities are also participating or taking the lead on research (+).

Completed activities will provide information for refinement or improvement of the continuing program. Based upon program experience, work activities will be added, deleted or modified to maintain a balanced program.

The time frames specified in the Tables are merely general guidelines for use by the Forestry Division in planning its annual program of work and completing the 1985-86 update of the State Forest Resource Plan. Projects undertaken by other researchers may not hold to this schedule if other priorities are established.

TABLE II: ACTIVITY LISTING

Activity Number	Description	Approximate Time Frame	Funds	Others
1.1	BMP Booklet	FY 85	*	
1.2	W. Q. Guidesheets	FY 85-90	*	+
1.3	Landowner Booklet	FY 85	*	
1.4	Field Guide Updates	FY 85--->	*	
1.5	Group Training	FY 85--->	*	
1.6	Landowner Survey Use	FY 85-86	*	
2.1	Slide Program to O.F.D.	FY 85--->	*	
2.2	Media Use	Continuing	*	
2.3	F.H.C. Display	FY 85-86	*	
2.4	O.F.D. Opportunities	Annually	*	
3.1	Implem. Plan- Clayton Lake	FY 85-87	*	+
3.2	Monitoring- Clayton Lake	FY 85-90	*	+
3.3	Clayton Lake Demo. Area	Continuing	*	+
3.4	Photo Records - Clayton Lake	Continuing	*	
3.5	Countywide Plan	FY 86-87		
3.6	Small-scale Demos.	FY 86-90	*	+
4.1	Tech. Asst.-Landowners	Continuing	*	
4.2	Tech. Asst.-Industry	FY 85--->	*	
4.3	State Lands Planning	FY 85--->	*	
4.4	Pilot Cost-share Program	FY 87		
5.1	Glover River Study	FY 85--->	*	+
5.2	Monitor Streams	FY 86--->		
5.3	Evaluate Results	Continuing	*	
5.4	Annual Assessment	Dec. each year	*	
5.5	Pesticide Studies-Mt. Fork	FY 86-90		+
6.1	Continue Road Study	FY 85-90	*	
6.2	Continue Harv.Regen. Study	FY 85-86	*	
6.3	Guidelines For Crossings	FY 86	*	
6.4	Low-Cost Practices	FY 85-90	*	+
6.5	Road Rehab. Inventory	FY 86-87		+
6.6	Update BMP's	FY 86, FY 88...	*	
6.7	SMZ Study	FY 85-90		+
6.8	Photo-Record Points	FY 85-90	*	
6.9	Gully Control With Trees	FY 85-90		
7.1	On-Site Monitoring	FY 85-86--->		
7.2	For. Div. Impacts	FY 85	*	
7.3	Evaluation Methods	FY 85-86	*	
7.4	Program Evaluation	FY 86, FY 88...	*	
7.5	EPA Task Force	FY 85	*	
8.1	Research Needs	Continuing	*	
8.2	Sampling Methodology	FY 86-88	*	+
8.3	Study Basic Processes	Continuing		+
8.4	SMZ Guidelines	FY 86-87		+
8.5	Classification Systems	FY 86-88		+
8.6	Models	FY 86-90		+
8.7	USLE Improvements	FY 85-86		+
8.8	Forest Inventory	FY 88		+
9.1	Planning	Continuing	*	
9.2	Update Strategy	Continuing	*	
9.3	Cooperative Relationships	Continuing	*	
9.4	Annual NPS Meeting	FY 85--->	*	

* Activity possible with current funding.
+ Activity involves extensive participation by others.

TABLE III- TIME FRAME DIAGRAM

	Approximate Time Frames					
Activity No. & Description	FY85	FY86	FY87	FY88	FY89	FY90
1.1 BMP Booklet	xx					
1.2 W. Q. Guidesheets	xx--	------	------	------	------	--xx
1.3 Landowner Booklet	xx					
1.4 Field Guide Updates	xx--	------	------	------	------	--xx
1.5 Group Training	xx--	------	------	------	------	--xx
1.6 Landowner Survey Use	xx--	--xx				
2.1 Slide Prog. to O.F.D.	xx--	------	------	------	------	--xx
2.2 Media Use	xx--	------	--Continuing-		------	--xx
2.3 F.H.C. Display	xx--	--xx				
2.4 O.F.D. Opportunities	xx--	------	--Continuing-		------	--xx
3.1 Imp. Plan-Clayton Lake	xx--	------	--xx			
3.2 Monitor-Clayton Lake	xx--	------	------	------	------	--xx
3.3 Clayton Lake Demo. Area	xx--	------	--Continuing-		------	--xx
3.4 Photo Records-Clayton Lake	xx--	------	--Continuing-		------	--xx
3.5 Countywide Plan		xx---	--xx			
3.6 Small-scale Demos.		xx---	------	------	------	--xx
4.1 Tech. Asst.-Landowners	xx--	------	--Continuing-		------	--xx
4.2 Tech. Asst.-Industry	xx--	------	--Continuing-		------	--xx
4.3 State Lands Planning	xx--	------	------	------	------	--xx
4.4 Pilot Cost-share Program			xx			
5.1 Glover River Study	xx--	------	------	------	------	--xx
5.2 Monitor Streams		xx---	------	------	------	--xx
5.3 Evaluate Results	xx--	------	--Continuing-		------	--xx
5.4 Annual Assessment	xx--	------	-Dec. ea. year------			--xx
5.5 Pesticide Study-Mt. Fork		xx---	------	------	------	--xx
6.1 Continue Road Study	xx--	------	------	------	------	--xx
6.2 Continue Harvest Study	xx--	--xx				
6.3 Guidelines For Crossings		xx				
6.4 Low-Cost Practices	xx--	------	------	------	------	--xx
6.5 Road Rehab. Inventory		xx---	--xx			
6.6 Update BMP's		xx		xx		xx
6.7 SMZ Study	xx--	------	------	------	------	--xx
6.8 Photo-Record Points	xx--	------	------	------	------	--xx
6.9 Gully Control With Trees	xx--	------	------	------	------	--xx
7.1 On-Site Monitoring		xx---	------	------	------	--xx
7.2 Forestry Division Impacts	xx					
7.3 Evaluation Methods	xx--	--xx				
7.4 Program Evaluation		xx		xx		xx
7.5 EPA Task Force	xx					
8.1 Research Needs	xx--	------	--Continuing-		------	--xx
8.2 Sampling Methodology		xx---	------	--xx		
8.3 Basic Processes		xx---	--Continuing-		------	--xx
8.4 SMZ Guidelines		xx---	--xx			
8.5 Classification Systems		xx---	------	--xx		
8.6 Models		xx---	------	------	------	--xx
8.7 USLE Improvements	xx--	--xx				
8.8 Forest Inventory				xx		
9.1 Planning	xx--	------	--Continuing-		------	--xx
9.2 Update Strategy	xx--	------	--Continuing-		------	--xx
9.3 Coop. Relationships	xx--	------	--Continuing-		------	--xx
9.4 Annual NPS Meeting	xx	xx	xx	xx	xx	xx

Ranking of Silvicultural Practices

Based upon completed 208 studies, particularly tasks 223, 242, 710, 1101, and 1102, as well as visual observations, a relative ranking of the silvicultural practices by degree of potential for causing nonpoint source pollution in Oklahoma is generally possible. Any land management practice, if improperly applied, may result in NPS pollution, whether in forestry, or any other area. The following forestry practices are considered sound and necessary and are ranked only in terms of their potential for causing water quality problems in the event they are improperly applied. This ranking can serve as a general guideline to priorities in future forestry NPS management activities. In general order of priority, the practices are ranked as follows:

1. Forest Roads, including streamside management practices
    a. in-channel modification
    b. stream crossings, and associated road drainage directly into streams
    c. road location, design and construction
    d. provision of road/stream buffers where needed
    e. control of soil exposure during construction
    f. old road rehabilitation
    g. road maintenance practices

2. Clearcut Harvesting
    a. location of landings and skid trails
    b. timing

3. Site Preparation
    a. crushing, shearing
    b. burning
    c. ripping

4. Use of Chemicals

Public Participation

By policy, the Forestry Division is open and receptive to public input. During preparation of the State Forest Resource Plan, issues were generated from a wide range of interests, consolidated and incorporated into the Plan. The 1985 SFRP update will also involve a substantial opportunity for public input. The Forestry Division mailing list, and the Governor's Forum on Forestry will offer ample opportunity for the "forestry community" to identify concerns and issues.

Public hearings in the past have been of limited value, as attendees are mostly agency oriented, with little representation of the public at large. It is not anticipated that public hearings will form a major part of the Forestry Division's ongoing program, but may be used in the event of important program changes or findings.

The best opportunity for public participation appears to be in using opportunities for education in various group programs, news releases, and landowner contacts. The public needs to be informed about the water quality program, and feel comfortable in expressing its concerns and offering solutions. Copies of reports are readily available for review and comment. Complaints about forestry-related problems may be made directly to the Forestry Division or to the Pollution Control Coordinating Board, in care of the Department of Pollution Control.

Measurements of Progress

Continued development and operation of Oklahoma's forest water quality management program will require investments of state funds. Oklahoma is committed to the nonregulatory approach to management of forestry NPS pollution problems in compliance with the Federal Water Pollution Control Act and Clean Water Act Amendments (an exception being that forest chemical use is regulatory). State funds must be invested in effective programs and used efficiently. To accomplish this, measures of program effectiveness and progress are needed.

The Forestry Division has in place the means to track forestry accomplishments in the areas of landowner assists, group programs, management plans, and media contacts; and continued monitoring and analysis of instream water quality. Information on BMP implementation has been developed, but not on a comprehensive survey basis.

Measures of progress for the major objectives are as follows:

I. Water Quality Monitoring - Trends on monitored watersheds in mean and median values of turbidity and suspended solids, which will be coupled with aquatic data gathered by others.

II, III, & IV. Technical Assistance, Training, I & E - Using the Forestry Division's monthly accomplishment reporting system, data will be maintained on management plans, landowner requests and contacts, BMP's applied, group programs and tours presented, and other items.

V. Demonstration Areas - Continued instream sampling and practices applied should reveal water quality trends.

VI. Practice Effectiveness - (a) Develop an approach to on-site monitoring of practices to determine the extent of use and corrective needs, and (b) develop and maintain a photographic record system.

VII. Program Effectiveness - Evaluations completed which show increased application of BMP's and improvement in water quality.

VIII, & IX. Research and Development, Planning - Continued cooperative attitude among all concerned groups, and successful use of the annual NPS meeting.

Resource Considerations

The availability of adequate resources is a key element in accomplishing the objectives of the forest water quality program. The three types of public resources necessary for program success are funding, manpower, and financial incentives for landowners. The following discussion is limited to these resources. However, as previously discussed, success in forestry water quality management on private lands is dependent on private management decisions, and a basic objective of the program is to develop the potential for applying private managerial resources in water quality management.

Funding

Past program efforts were funded by a combination of federal grants and state appropriations, supplemented by considerable investments by university and forest industry research programs. Elimination of federal 208 funds, which were used primarily for special projects, will place some constraints on the program, particularly with increasingly limited state budgets. At this time, state funding appears adequate for a minimum type program which will meet statutory requirements.

Amendments to the Clean Water Act for FY 84-85 may contain provision of funding for nonpoint source programs. In addition, limited federal funding is available from the 106 and 205(j) programs in the state. Funding from these sources, as well as private foundations, and maintenance of state funding levels, will be pursued to support program efforts. The management program oulined requires a minimum of two man-years of staff forest hydrologist time, and support personnel.

An expanded program, with increased levels of practice and instream monitoring, will require more funding as well. Table II identified those activities which can be undertaken with present resources.

Manpower

Because the forestry program relies heavily on Forestry Division field personnel and staff expertise, manpower limits have not been a major problem. However, there are associated limitations due to logistics which should be pointed out. Existing studies are widespread and diverse ranging from the road and small watershed studies northeast of Bethel, to the Clayton Lake watershed in Pushmataha County. Monitoring equipment must be serviced after each storm. With planned expansion of implementation activities, logistics and manpower considerations are becoming more critical.

Increased research interest and capability and implementation activities by O.S.U., forest industry and other agencies may alleviate this problem somewhat. However, manpower and logistical constraints must be carefully considered in establishing priorities, scheduling and evaluating progress in implementing the total program as outlined.

Financial Incentives

Landowner economics plays a big part in governing the rate of practice installation in Basin 4. The high cost for some practices, with little or no perceived return, often discourages landowners from performing the water quality management practices needed. Also, a much greater effort will be needed to reach absentee owners and those with extreme financial limitations. In some cases and for some practices, a financial incentives program will be needed to promote participation. The state as a whole will benefit from this program, so some degree of public financing seems appropriate. The types of possible incentives include cost-sharing, direct grants, and tax incentives. The factors favoring a tax incentive are lower administrative costs and equity among recipients.

If specific water quality problems associated with forestry activities are identified or if watershed-wide implementation projects are to be undertaken, some type of cost-incentive program will be needed.

ADDENDUM ON PROBLEM ASSESSMENT

This strategy is written for inclusion as a part of Oklahoma's Water Quality Management Plan. A specific discussion of problem assessment is not included as a part of the strategy because there is a separate section on problem assessment in the overall management plan. The following problem assessment summary is for use of the strategy as a separate document.

Water Quality and Beneficial Uses

Potential problems in water quality and designated beneficial uses relating to forestry have been examined in 208 Tasks by the Oklahoma Conservation Commission, Oklahoma State Department of Agriculture, Forestry Division, and Oklahoma Department of Wildlife Conservation.

In water quality monitoring in Task 222, the Conservation Commission found no water quality problems associated with forestry operations. In intensive and extensive biological monitoring in Task 1101 in areas of intensive development of new road systems, the Department of Wildlife Conservation found only subtle changes in aquatic organism populations attributable to effects of roads and other forestry practices. In Task 223, the Forestry Division found elevated levels of turbidity and suspended sediment which were associated with new road construction. In Task 223 and in previous monitoring by the OSDA Division of Plant Industry, no problems associated with pesticide use were identified. Instream monitoring in Task 223 and on-site studies in Task 1102 have not revealed problems associated with harvesting and site preparation practices.

Water Quality Management

Results of 208 Tasks 223, 710 and 1102 and previous practices monitoring (as described in the strategy) indicate that the principal forestry nonpoint source water quality management concerns on private lands lie in managing new industrial road systems to minimize sediment movement into channels, and to improve old roads on small nonindustrial holdings.

Substantial improvements in industrial forest road practices have occurred within the past 10 years. Innovative practices in surfacing, stream crossings and maintenance have been developed. Some problems on older industrial forest roads exist which are being addressed in rehabilitation programs. New industrial roads being constructed are generally in compliance with the State's BMP guidelines.

As compared to industrial forest situations, rehabilitation problems on old roads on small nonindustrial holdings tend to be more difficult to resolve because of social and economic factors and technical problems relating to past use and small tracts. As examples, frequent characteristics of small holdings are absentee ownership and associated problems of risk and control, widespread public use of roads, and limitations in access and road location. Oklahoma's forestry nonpoint source management program must address the social and economic problems of small ownerships.

In summary, no forestry nonpoint source problems in water quality or impairment of designated beneficial uses of a serious or widespread nature have been identified. However, because of continuing development activities and because of management obstacles on some lands, as well as public interest and concern, a continuing water quality management program of primarily preventive nature is needed.

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October 23, 1984

Mr. Jack E. Ravan, Chairman
Federal-State-Local NPS Task Force
Office of Water (WH-556)
U.S. Environmental Protection Agency
Washington, DC 20460

Dear Mr. Ravan:

Over the past six months, I have been a Task Force member to help develop approaches to managing nonpoint sources that would strengthen and improve our mutual efforts to address these problems at all levels. In addition, my agency has developed a strategy outlining ongoing and future nonpoint source management activities. We are in the process of developing a "generic" nonpoint source strategy that could be used by other areawide planning agencies.

I believe the National Nonpoint Source Policy developed by our Task Force will help all of us better coordinate our approaches and programs. I join with you in recommending that this policy statement be presented by the Task Force to Mr. Ruckelshaus in December.

Sincerely yours,

John M. Amberger

John M. Amberger
Executive Director

JMA:mk

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memo

TO: Members of the Nonpoint Source Task Force

FROM: John Amberger, Executive Director
Southeast Michigan Council of Governments

DATE: October 30, 1984

SUBJECT: Update and Revisions to SEMCOG's Nonpoint Source Strategy

At the last National Nonpoint Task Force meeting the SEMCOG Nonpoint Source Strategy along with the others that were presented was reviewed in light of the discussion of our proposed policy. These reviews proved very helpful to us in pointing out ways in which our strategy can be strengthened.

I must point out that the strategy is an adopted policy document of SEMCOG. In addition, it is part of an adopted areawide Water Quality Management Plan under Section 208 of the Clean Water Act. As such, it can't be changed without going through considerable advisory and policy committee discussion as well as through public hearings. We can however, make a thorough staff review of the document and propose needed changes as appropriate.

Following are actions that I will take, as Executive Director of SEMCOG, in response to the suggestions made by the reviewers of our Nonpoint Source Strategy.

1. I will initiate a staff review of the strategy aimed at updating the document in light of the new EPA Water Quality Planning and Management Guidelines pursuant to 40 CFR, Part 130 Regulations, when they are promulgated, as well as the policy recommended by the Nonpoint Source Task Force.

2. Commentors noted that the strategy does not have milestones and schedules for implementation. As a planning agency without implementation powers, we are constrained to depend on both the State of Michigan and the local units of governments within our jurisdiction for actual implementation activities except in the areas specifically assigned to SEMCOG, the Continuing Planning Agency, and the Areawide Water Quality Board (AWQB), the Plan's oversight body.

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Future revisions of the Plan will contain a timetable for the completion of needed planing activities for which SEMCOG has responsibility. Further, the activities called for in the Plan which would be implemented by agencies other than SEMCOG will be listed according to priorities and a suggested timetable for these activities will be prepared.

It is recognized that the implementation of the recommendations of this Plan depend upon financial resources which are often beyond the control of the agencies with implementation responsibilities. However, as Continuing Planning Agency, we can through a variety of mechanisms such as education, persuasion, publicity, and support for legislation, give broad exposure to these priorities in order to encourage the allocation of resources for their implementation.

3. The State of Michigan is currently preparing a nonpoint source strategy for both urban and rural areas. SEMCOG is participating under contract to the state in the development of this strategy. We will work toward maximum integration of our regional strategy with the developing state strategy. This should strengthen both strategies and facilitate implementation of their recommendations.

4. Commentors noted that the strategy was not clear on coordination and oversight of nonpoint source abatement activities. As was previously indicated, SEMCOG's Nonpoint Source Strategy is a chapter of the areawide Water Quality Management Plan for Southeast Michigan (208 plan). In another portion of the Plan entitled "Management" a description of the Areawide Water Quality Board can be found. The AWQB is a twenty-seven member board representing all geographic areas of Southeast Michigan: the Governor's office, cities, counties, townships and villages, watershed councils, business and environmental groups. The AWQB's responsibilities are listed in Attachment A. I have also attached copies of the 1981 and 1983 AWQB annual reports. This Board continues to be an effective overseer of Plan implementation as well as an ombudsman for water quality in Southeast Michigan.

5. Commentors noted the lack of specific reference to the private sector in the nonpoint source strategy. This is an excellent point. In the years since the 208 plan was adopted SEMCOG has developed strong links with business and industry in Southeast Michigan and provides staff to the Metropolitan Affairs Corporation (MAC). MAC is a privately funded thinktank organization aimed at developing resolutions to a broad range of problems in Southeast Michigan by joint action of government and private industry. Many of MAC's priorities deal with environmental issues. The next revision of the nonpoint strategy in the Water Quality Management Plan will make specific reference to the role of the private sector in protection of our water resources from pollution by nonpoint sources.

JMA/jv
Enclosures

ATTACHMENT A

Responsibilities of the Areawide Water Quality Board

The Areawide Water Quality Board shall monitor and oversee Plan implementation, coordinate management agency activities, report recommendations for Plan modifications to the Continuing Planning Agency, and serve as an advocate of local concerns at the state and federal levels. Specifically, the AWQB shall:

a. Monitor the facilities construction schedule.

b. Monitor agencies for their conformance with Designated Management Agency responsibilities.

c. Monitor the implementation of programs and practices for the control of all nonpoint sources of water pollution.

d. Review and comment on water quality related federal grant applications (A-95 review process).

e. Review and comment on state permits for sewage systems and for the discharge to ground or surface waters.

f. Review and comment on major land use development plans for conformance with the Water Quality Managment Plan.

g. Hear and attempt to resolve conflicts related to the Areawide Water Quality Management Plan.

h. Recommend legislation.

i. Sample water quality for Plan compliance.

j. Recommend Plan modifications to the Continuing Planning Agency.

k. Prepare an annual budget.

SEMCOG NONPOINT SOURCE STRATEGY

Nonpoint Sources Management

(Chapter IV of the Water Quality Management Plan
for Southeast Michigan)

September 12, 1984

Excerpts from the Water Quality Management Plan for Southeast Michigan.

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CHAPTER IV: NONPOINT SOURCES MANAGEMENT

A. OVERVIEW

A major thrust of areawide water quality management planning is to identify and develop control measures for nonpoint sources of water pollution. The Water Quality Management Plan for Southeast Michigan addresses five general categories of nonpoint sources of pollution that are of concern to the planning area. They are:

1. Urban Stormwater;
2. Agricultural and Other Rural Area Runoff;
3. Chemical Use;
4. Septic Systems; and,
5. Sanitary Landfills.

The policies contained within this chapter of the Plan are arranged according to the above five categories of nonpoint pollutants. These policies are prefaced by a section of General Recommendations which addresses additional and diverse nonpoint pollution sources.

In many cases, existing funding sources will not be adequate to permit the implementation of the new and expanded water quality management responsibilities delineated in the following policies. The Continuing

Planning Agency and the Areawide Water Quality Board shall assist, to the extent feasible, Designated Management Agencies in obtaining the funding necessary for water quality management plan implementation.

B. OBJECTTIVES OF THE NONPOINT SOURCES MANAGEMENT CHAPTER

Of the goals adopted in Chapter I of the Water Quality Management Plan for Southeast Michigan, goals 5, 14, and 15 have particular relevance for nonpoint sources management. They are as follows:

> "To insure the provision of structural and non-structural pollution control measures in a manner that respects fragile natural resources while maintaining an awareness of public and private property rights;
>
> "To insure that the location, modification, construction and operation of any facilities, activities, or substantive changes in use of the lands which might result in any new or deleterious discharge directly or indirectly into the region's waters are regulated; and,
>
> "To reduce pollution from nonpoint sources to the degree necessary to meet water quality standards."

The following set of objectives serves to provide direction for the attainment of these goals.

1. Prevent any increase in the quantity of stormwater runoff in new development above that which naturally occurs.
2. Reduce degradation to receiving waters by refining and expanding identification of stormwater quality problems and control techniques.
3. Control stormwater runoff from surface storage sites.
4. Preserve and properly manage wetland areas.
5. Provide control methods for nonpoint pollution from agricultural sources including animal wastes and wind and water erosion from cropland.
6. To provide for control of sedimentation from streambanks and roadsides.
7. Promote the development of winter road snow and ice management practices and dust control procedures that minimize water quality degradation.

8. Insure the use of fertilization practices and rates that protect water quality, minimizing nutrient losses from overland flow and leaching.

9. Insure the use of pesticide control techniques that minimize the impact on water quality.

10. Guide land use planning for unsewered development through the use of environmental information.

11. Insure the use of environmentally sound septic system design and location standards.

12. Establish an institutional method for proper septic system management.

13. Monitor water quality in suspected septic system problem areas.

14. Provide review and regulation procedures, and utilize environmentally sound methods for the site selection and design of sanitary landfills.

15. Establish procedures that provide for the operation and maintenance of sanitary landfills to a level necessary for controlling the possible negative impact on water quality.

16. Monitor water quality in landfill areas suspected of causing water quality problems.

C. GENERAL RECOMMENDATIONS

The following policies address the need for additional water quality related data collection activities, as well as a clearer definition of statewide nonpoint source goals and standards. Such activities are a necessary prerequisite to the design and implementation of nonpoint source-related programs and practices.

1. Reconnaissance Surveys

a. Background: Reconnaissance water quality surveys are initial surveys that map the physical arrangements, such as size, shape, depth, and the distribution and abundance of materials in surface or groundwater bodies at a particular time. These surveys have been done on most lakes in the form of lake maps available primarily from Michigan United Conservation Clubs, and rivers in the form of U.S. Geological Survey Atlases. As such, this type of information is centralized and made available to interested parties on a fee basis. However, these surveys have only been conducted to a limited extent in the region's groundwater reservoir areas. Reconnaissance surveys are crucial as a basis for other work on a body of water.

b. Policy: It shall be the policy of the Council of Governments to encourage,

1) The preparation of a lake depth map, using standard or recommended techniques, for those lakes without a lake depth map by appropriate agencies (lake associations, local units of governments, Michigan Department of Natural Resources).

2) The establishment of a centralized repository for lake depth maps.

3) The identification and mapping of the major glacial aquifers[1] in Southeast Michigan, using standard or recommended techniques, by the Water Resources Division of the U.S. Geological Survey. This should include information on aquifer recharge characteristics, contamination potential, storage potential, and existing uses.

2. Baseline Water Quality Surveys

a. Background: Baseline water quality surveys are conducted to determine time-trend changes in water quality. These surveys involve minimal sampling of key parameters at key locations at critical times of the year. They are essential for determining existing water quality and general trends in water quality and are needed for determining changes in water quality due to various pollution control measures.

Currently, the Michigan Department of Natural Resources is conducting baseline water quality surveys on both the rivers and selected lakes in Southeast Michigan. In addition, the MDNR conducts monthly sampling at other river locations such as upstream and downstream of urban areas. Further, the Inland Lakes Management Unit of the MDNR is conducting the Self-Help Water Quality Monitoring Program, which involves citizens in lake water quality assessment. Modest modifications to this program would yield substantial increases in valuable water quality data.

b. Policy: It is the policy of the Council of Governments that:

1) The State of Michigan should continue its program of sampling rivers on a monthly basis and should consider expanding the program. A system using agencies such as the Areawide Water Quality Board, watershed councils, county and municipal agencies, or universities to collect and analyze samples should be explored.

2) The State of Michigan should continue the Inland Lake Self-Help Program and should expand the program as follows:

   a) Extend the sampling period from early Spring (when ice cover has disappeared, boat operation is safe, and water is isothermal)[2] through late Fall (into the Fall overturn)[3].

   b) Include the measurement of additional parameters that could be properly analyzed under the present system (such as total phosphorus, chloride) for at least three times of the year: during the Spring overturn, during the late Summer period of maximum thermal stratification, and during the Fall overturn. A system using agencies such as the Areawide Water Quality Board, county and municipal agencies, or universities to analyze sample should be explored.

   c) Explore the possibility of obtaining termperature and dissolved oxygen profiles since many lake associations are currently making these measurements.

   d) Provide seasonal trends of current data.

3. Intensive Water Quality Studies

   a. Background: The intensive studies are those in which a relatively small geographic area is studied in great detail over a relatively short period of time. Intensive studies have been conducted by the Michigan Department of Natural Resources and the Council of Governments. The work is designed to show cause and effect relationships for water quality. The studies are done at the time of year when water quality conditions are most critical. The exact nature of each study depends on the type of water quality problems which exist in the area.

   These studies are of critical importance to monitoring the changes in water quality which will result as the Water Quality Management Plan is implemented.

   The study areas which should be given the highest priority in terms of immediate need are listed below. Water quality studies in these areas will require a detailed awareness of local water quality problems and therefore these studies would most effectively be carried out by the Continuing Planning Agency and other local agencies. The areas of highest priority area:

1) wet weather water quality surveys of the Clinton River.

2) wet weather water quality surveys on river basins in Southeast Michigan which have not previously been sampled.

3) impounded lakes which have a high recreational usage, i.e., Kent Lake, Lake Belleville, and Ford Lake, and are impacted by point and nonpoint sources.

b. Policy: It is the policy of the Council of Governments that intensive water quality studies shall be conducted on Southeast Michigan's inland rivers and lakes by the State of Michigan, the Continuing Planning Agency and other appropriate local agencies. These studies shall be planned in cooperation with the Continuing Planning Agency.

4. Organization and Dissemination of Water-Related Data

a. Background: As more work is being done in the field of water quality at all levels, the time spent by analysts in conducting literature and data searches increases. Due to the abundance and diversity of agencies involved in sampling efforts, there is duplication of effort, or lack of effective sampling work simply due to a lack of knowledge of prior or concurrent efforts.

There are already at least two data bases which have been developed for water quality data purposes. These are the U.S. Environmental Protection Agency's STORET (STOrage and RETrieval) system, and the Michigan Department of Natural Resources' ADROIT (Automated Data Retrieval and Operation Involving Timeseries) system. However, each of these has several shortcomings in the manner in which they are managed. These are:

1) Lack of publicity and general accessibility.

2) Strict specifications for the quality of data entered into the data base, and

3) Lack of user services.

The current approaches to STORET and ADROIT by the respective agencies may, however, be modified upon the request of interested parties or agencies to improve their usefulness. Also the computer software developed for the data base could be transferred to the Continuing Planning Agency for the development of a compatible, yet separate data base. Such a system would be more economical in terms of time and money.

b. Policy: The Continuing Planning Agency shall investigate the feasibility of using an existing data handling system or of developing a regional data system which would contain data gathered from various sampling efforts in Southeast Michigan. This would include data gathered in studies performed by:

1) Federal, State and Local Agencies
2) The Council of Governments (208 Studies)
3) Watershed Councils
4) Lake Associations
5) Universities
6) Consultants

Data from the system shall be made available to interested parties on a request basis.

The Continuing Planning Agency shall obtain and stay current with reports on studies performed on or related to water quality in Southeast Michigan and make such reports available for public use.

To prevent duplication of effort, the Continuing Planning Agency shall coordinate its work with the Watershed Councils and other involved agencies.

5. Promote Consideration of Nonpoint Control

a. Background: Presently, the State of Michigan is responsible for establishing Water Quality Standards and the U.S. Environmental Protection Agency is responsible for setting guidelines for nonpoint sources. As best management practices are recommended for controlling nonpoint sources of pollution, a comprehensive plan must include a provision whereby limiting levels of nonpoint sources of pollution are established in conformance with overall State standards, and designations of responsibility are made. This will be the first step in implementing nonpoint source pollution control strategies for urban areas.

b. Policy: The Michigan Department of Natural Resources in conjunction with the Continuing Planning Agency, shall work to develop regulatory and voluntary approaches, programs, and incentives to encourage control of nonpoint sources of pollution.

6. Nonpoint Source Measurement Program

   a. Background: In order to assess the effectiveness of the Water Quality Management Plan, a monitoring program will be needed which is designed specifically for the purpose of determining the effectiveness of nonpoint source pollution control measures.

   Currently, the Michigan Department of Natural Resources (DNR) is not involved in any type of monitoring activity for nonpoint sources of pollution. This type of monitoring will also require flow measurement, which has been a joint effort on the parts of the MDNR and the U.S. Geological Survey (USGS) since 1951.

   b. Policy: The Areawide Water Quality Board in cooperation with the State of Michigan and the USGS, Water Resources Division, shall monitor the progress of the nonpoint source pollution abatement programs. Water quantity as well as water quality shall be measured for the purpose of determining nonpoint source loads.

7. In-Place Pollutants

   a. Background: Many polluting materials which have entered the region's waters have settled out among the naturally occurring bottom sediments. These bottom deposits have the potential of exerting a polluting effect. As such, these deposits are characterized in P.L. 92-500 as "in-place pollutants." Certain agencies such as U.S. Environmental Protection Agency (U.S. EPA), U.S. Army Corps of Engineers (COE), and Michigan Department of Natural Resources (MDNR) conduct periodic sediment sampling programs to determine the effects of inplace pollutants. Of greatest concern are those pollutants which have been identified as toxic substances by the U.S. EPA and/or critical materials by the State as well as those which exert an excess biochemical oxygen demand in the aquatic environment.

   While control and management of in-place pollutants is complex and beyond the scope of this work, the following considerations should be noted:

   1) Under Section 115 of PL 92-500, both the U.S. EPA and the COE have authority and responsibility for identifying, removing, and appropriately disposing of in-place pollutants. However, monies appropriated under this section have been used nationally only minimally for study related to in-place pollutants.

2) Various divisions of the MDNR have been involved in work related to the identification and location of in-place pollutants as required by Section 305 of PL 92-500, which requires the preparation of water quality inventories. These efforts are becoming more intensified as the funding, data, and concern about in-place pollutants have increased. A 1977 MDNR paper describing a Michigan strategy for water quality monitoring has identified expanded toxic materials monitoring as the highest priority.

b. Policy: It is the policy of the Council of Governments that:

1) The State of Michigan should identify and locate areas of concern relating to in-place pollutants. Of primary concern should be those exerting toxic effects as defined by the U.S. Environmental Protection Agency and/or the State of Michigan. This effort should be conducted in conjunction with such agencies as the U.S. Environmental Protection Agency, U.S. Army Corps of Engineers, Continuing Planning Agency and concerned local agencies.

2) The U.S. Environmental Protection Agency should assume a more active role in conjunction with the Corps of Engineers in the removal and appropriate disposal of identified in-place pollutants as specified in Section 115 of PL 92-500 and as identified by the Michigan Department of Natural Resources and/or U.S. Environmental Protection Agency. Similarly, a more adequate level of funding should be provided through Section 115 of P.L. 92-500 for both the identification and study of in-place pollutants, as well as their removal, treatment, and management.

8. Phosphorus Ban

a. Background: Michigan has been attempting for several years to reduce the amount of phosphorus discharged from municipal and industrial sources. Such phosphorus discharges are the major contributors to nuisance algae and slimes which exist in over seventy percent of Michigan's inland lakes and in all of the Great Lakes. In 1972, Michigan passed a law which limited the phosphorus content in laundry detergents and several other cleaning agents to 8.7 percent by weight. However, recent scientific studies of the Great Lakes indicate that reduction to this level is insufficient.

After holding numerous public hearings, the Michigan Natural Resource Commission, on August 26, 1977, approved an administrative rules change which further reduced the allowable phosphorus content in detergents to a level of 0.5 percent by weight. This allows phosphorus to exist at a "trace" contaminant level and is effectively equivalent to a phosphorus ban. The change went into effect October 1, 1977. However, this administrative rules change is subject to judicial review, and is presently being appealed by soap and detergent manufacturers. It is therefore felt that a ban on phosphorus in detergents should be incorporated into state legislation.

b. Policy: The Continuing Planning Agency and the Areawide Water Quality Board shall support legislation to ban phosphorus from the contents of detergents.

9. Protection of Wetlands and Floodplains

a. Background: The importance of certain wetlands to water quality management lies in the natural functions or services they provide both in terms of water quality and quantity. They often serve as hydrologic buffers and reservoirs during storm events and dry periods by providing for storage, infiltration, and evaporation. In addition, they can trap, retard or transform materials such as sediment, nutrients, and organic matter. Thus, benefits they provide can include the absorption and breakdown of pollutants, cycling of nutrients, binding of soils, degradation of organic wastes, and water purification. In some cases, floodplains can also provide some of these same water quality benefits. Flood plains are defined as those areas which would be inundated by the natural 100-year flood.

In many cases, especially in Southeast Michigan, the natural use of wetlands has been replaced by developed uses. Generally, the natural functions and values of wetlands are overlooked prior to their development. In many cases, public harm results due to lack of awareness of the full costs and impacts of their alteration. These problems exist on a local, watershed, and statewide basis.

The impacts of development of wetlands on water quality are a function of development-incurred alterations of wetland hydrology. Such alterations include raising water tables, lowering water tables, and/or changing circulation patterns. These hydrological impacts result from the general categories of wetland development activities of filling, dredging, draining, and construction activities.

The immediate water quality impacts of loss of wetalnds consist of loss of pollutant removal capability, loss of water storage capacity, and release of stored nutrients. The most severe impacts result from the common practice of draining wetlands. The ultimate impacts on the watershed are extensive and cumulative.

The majority of wetlands in Southeast Michigan are located in the upland kettle moraine area of Washtenaw, Oakland, and Livingston counties. These wetlands have been identified as significant surface flow regulators and recharge areas for the groundwater reservoirs that feed the headwaters of the Southeast Michigan region's major rivers, and their significance to regional water resources is substantial.

In Southeast Michigan, Michigan Public Act 203 of 1979, the Goemaere-Anderson Wetlands Protection Act, provides a regulatory system governing all of Southeast Michigan's wetlands contiguous to the Great Lakes, an inland lake, pond, river or stream; as well as all noncontiguous wetlands greater than five acres in size. The Act provides, among other things, for the establishment of an MDNR permitting system to regulate the dredging, filling, draining of wetlands, and the construction, operating, or maintaining of any use or development, save those specifically exempted in the Act, in a wetland. The Shoreland Protection and Management Act (P.A. 245, 1970) and the Inland Lakes and Streams Act (P.A. 346, 1972) provide protection for additional specific wetlands.

In addition, the Act provides for the enactment and administration of wetlands ordinances at the local level, under agreement with MDNR.

b. Policy: The map, "Townships Containing Priority Wetland Areas in Southeast Michigan," which identifies those townships within the region where proper wetland management is necessary in order to help maintain acceptable water quality, is hereby incorporated into the Plan. Local units of government in these areas, as well as other governmental units containing wetlands which meet the criteria set forth in the State Act, shall promote wetland protection through local implementation of the Michigan Wetlands Protection Act, P.A. 203 of 1979, other pertinent legislation, as well as local ordinances, where applicable.

The Continuing Planning Agency shall develop tools and techniques to aid in assuring proper regional wetlands management, especially in the priority wetland areas, through promoting the proper local management of wetlands as defined in the SEMCOG publication, The Impacts of the Development of Wetlands on Water Quality.

It is recommended that local units of government should consider approaches to protection of floodplain areas within the 100-year limit through plans to preserve, protect, and provide for their best use, which will in turn facilitate water quality and quantity management. Further, development within floodplains should be reduced and minimized through local regulations, ordinances, and review procedures.

10. Impact of Atmospheric Sources of Pollution on Water Quality

a. Background: Atmospheric fallout poses a potentially serious problem to the water quality of Southeast Michigan. Such atmospheric fallout may contribute lead, polychlorinated biphenyls (PCBs), and phosphorus to the waters of the region. In addition, the problem of low pH or acidic rain may also exist in the region. Acidic rain can be responsible for contribution of sulfuric and nitric acids.

The process of identifying the specific sources and magnitude of airborne sources of water pollution is highly complex and could not be fully addressed in the initial water quality management planning process. The International Joint Commission is involved in investigating the relationship between air and water pollution. In light of the potential seriousness of this pollution source, it is felt that such investigation is warranted and that any studies undertaken should provide for close coordination between work done pursuant to the Federal Clean Air Act Amendments of 1977 and the Clean Water Act.

b. Policy: The Continuing Planning Agency, in coordination with appropriate agencies at all levels, shall review the findings of the International Joint Commission and other agencies in their monitoring and study of the chemical composition and water quality impacts of atmospheric pollution sources. This information shall be coordinated with air quality planning efforts in order that programs with a sensitivity to both air and water quality may be developed and implemented.

11. Modification to State Guidelines to Permit Issuance

a. Background: As described within Chapter II, the Areawide Water Quality Board (AWQB) will monitor, oversee, and coordinate implementation of the Plan. Consistent with this role, the AWQB is to review and comment on certain water quality related permits to assure their issuance in conformance with the Plan. Ample statutory authority for such review and comment by the AWQB is provided by the Thomas J. Anderson, Gordon Rockwell Environmental Protection Act, Michigan P.A. 127 of 1970 (hereinafter referred to as MEPA - the Michigan Environmental Protection Act).

Permits most significant to the quality of Southeast Michigan's waters are issued under the auspices of the State. Therefore, it is necessary that there be a mechansim which provides for timely review and comment by the AWQB on applications for certain water quality related State permits.

Such a mechanism may be established through modification to the guidelines adopted pursuant to the applicable State permitting programs. These modifications may be achieved statutorily under Michigan P.A. 108 of 1977, which specifically addresses the adoption of State agency guidelines. Guidelines should be modified by the appropriate State agencies as necessary to provide that the AWQB receive timely notice of the submission of an application for a license or permit for an activity that may impact upon the region's water quality. Upon receipt of notice, the AWQB will request full copies of relevant applications and then undertake review for Plan compliance, and as necessary, prepare comments and delineate any modifications to the application necessary to assure Plan compliance and protection of water quality. Such comments will be submitted to the appropriate State permitting authority and to the applicant.

Undoubtedly, the majority of applications will be in conformance with the Plan or may be acceptable with minor modifications. In the event that modifications to a project are required or the application is unacceptable, the AWQB may attempt, by direct contact with the applicant, to achieve Plan compliance. Should Plan compliance not be obtained and the application not be withdrawn, the AWQB would, pursuant to MEPA, intervene in the administrative proceedings. As an intervenor it would be incumbent upon the AWQB to demonstrate persuasively to the State agency that granting a permit or license is inimical to the duty of public trust of the environment imposed upon the State by its constitution and statutory law, and thus should not be permitted.

b. Policy: It is the policy of the Council of Governments that the appropriate State agencies shall adopt guidelines which provide that timely notice be given to the Areawide Water Quality Board of applications for permits or licenses, the issuance of which may impact upon the region's water quality. Full applications shall be made available to the Areawide Water Quality Board by the State upon request. The relevant State permit and licensing programs are as follows:

Type of Permit/License	Statutory Authority
Permits for municipal, industrial and commercial discharges or storage of any substance which may affect water quality.	1929 P.A. 245, as amended.
Permit for use of floodplains, stream beds, or channels of streams.	1929 P.A. 245, as amended.
Permit for dam construction on streams/rivers.	1963 P.A. 184, as amended.
Permit for dredging/filling of bottom land; structures on bottom land, marinas; creation, enlargement of diminution of an inland lake or stream; structural interference with natural flow of an inland lake, stream; artificial canals, channels, ditches, lakes, etc. connecting with or located within 500 feet of an existing lake or stream.	1972 P.A. 346, as amended.
Permit for construction of significant* sewerage system.	1913 P.A. 98, as amended.
*(As determined under the Memorandum of Understanding between MDNR and the regional planning agencies.)	
Permit to subdivide.	1967 P.A. 288
Permit for construction of solid waste disposal or resource recovery facility.	1978 P.A. 641
Permit for construction of hazardous waste disposal facility.	1979 P.A. 64
Permit for activities in wetlands.	1979 P.A. 203

12. Impacts of Gas and Oil Operations on Water Quality

a. Background: The production, storage, and pipeline transportation of oil and gas can have a potentially adverse impact on ground and surface water quality in Southeast Michigan. Examples of potential problems include surface runoff from storage and production well fields and the disposal of salt brines and other solutions produced in oil and gas operations. Data are presently insufficient to determine the magnitude of pollution problems from these sources. Given the growing demand for natural gas and oil, and the corresponding expansion and creation of new wells and pipeline networks, it is necessary that this potential problem be more closely studied.

Two agencies administer controls over gas and oil operations: the Public Service Commission (PSC) and the Michigan Department of Natural Resources (MDNR). The PSC regulates the construction, operation, and maintenance of oil and gas wells and pipeline transportation networks. The MDNR implements controls over oil and gas operations to control production and minimize pollution of ground and surface waters, but lacks the guidelines and staff to adequately administer pollution control programs.

b. Policy: It is the policy of the Council of Governments that the Continuing Planning Agency, in cooperation with the Public Service Commission and the Michigan Department of Natural Resources, should undertake a study of the impacts of gas and oil operations, on the water quality of the region and formulate adequate guidelines and recommendations to insure that gas and oil operations do not contribute to water quality problems.

13. Groundwater Protection

a. Background: Groundwater is a significant source of water supply in Southeast Michigan. The thousands of private wells and over 30 municipal groundwater supply systems in the region are utilized for domestic, agricultural, and industrial purposes. Groundwater quality rules are established under Part 22 of the Michigan Water Resources Commission's general rules. The Rules provide for nondegradation of groundwater quality in usable aquifers, define the requirements for hydrogeological study before permitting a groundwater discharge, establish groundwater monitoring requirements for new and existing groundwater discharges, and establish a variance procedure.

The developed, industrialized character of the region has resulted in a concentration of land uses that constitute current sources of groundwater quality problems, or potential sources of future problems. These land uses include illegal waste dumps, many of which contain toxic chemicals, improperly managed or closed sanitary landfills, chemical and petroleum product storage sites, industries and commercial establishments handling critical materials, underground waste injection wells, and improperly located or poorly functioning septic systems.

The MDNR conducted an inventory of known, suspected, and potential groundwater contamination problems in 1979. The inventory continues to expand as new sites come to light within the region and across the State. MDNR is attempting to prioritize known problem sites, to evaluate suspected problem sites, and to bring enforcement action against parties responsible for polluting where possible. This is part of an overall State groundwater strategy which will develop approaches to deal with current problems, as well as strategies to prevent future problems.

At the Federal level, U.S. EPA has developed a draft proposed groundwater protection strategy which states as its goal "to assess, protect, and enhance the quality of ground waters to the level necessary for current and projected future uses and for the protection of public health and significant ecological systems."

Because many groundwater problems are associated with abandoned facilities where no financially solvent responsible party can be identified to pay for cleanup activities, recent Federal legislation has been passed to create a "Superfund" to pay the cost of remedial measures to address such contamination problems under certain circumstances. Local units of government, through land use planning, zoning, and other local regulatory procedures, can play a significant role in preventing future groundwater contamination problems by environmentally sound siting and management of land use activities which are potential threats to groundwater quality.

b. Policy: It is the policy of the Council of Governments that MDNR continue the investigation and prioritization of groundwater contamination problems in Southeast Michigan. Priorities should reflect the input of the Continuing Planning Agency, AWQB, regional planning agencies, county health departments, local officials, and citizens. Federal funds should be sought and utilized to remedy and to plan for prevention of groundwater problems within the region, consistent with regional priorities.

It is recommended that local units of government, with the assistance of the continuing planning agency, utilize existing groundwater information available through sources including SEMCOG, county health departments, and MDNR, to develop local land use planning, zoning, and regulatory programs which incorporate groundwater protection as a consideration, and help to assure compliance with state groundwater rules. Septic system siting and management, as well as land uses involving the handling of critical materials should be carefully regulated in potential groundwater recharge areas.

D. URBAN NONPOINT SOURCES OF WATER POLLUTION

In the heavily developed Southeast Michigan region, urban stormwater runoff, which washes litter, dirt, oil salt and other pollutants into the region's waters, is a major contributor to water quality degradation. A variety of pollution control techniques, including source controls and on-site storage, may be implemented to mitigate the negative effects of this significant source of nonpoint pollution. A number of methods for the control of urban stormwater pollution were explored, including treatment facilities, on-site detention (with gradual release to receiving waters), combinations of treatment and storage, and source control programs. Source control programs include such nonstructural mechanisms as street sweeping, street washing, and leaf and litter pickup programs. While all methods investigated have merit, the costs of most alternatives are anticipated to be high. However, the provision of on-site detention for water quality improvement in new developments appears to be quite cost-effective.

The following set of policies provides direction for the implementation of such control techniques and the development of necessary procedures and guidelines.

1. Stormwater Pollution Control for New Development

a. Background: Studies indicate that the pollution from new development is the most feasible to control. The planning approach contained in this recommendation is twofold:

1) to prevent any increase in the quantity of runoff above that which naturally occurs, and

2) to prevent any degradation to the quality of runoff above that which naturally occurs.

On-site detention designed or modified to provide percolation and drainage to receiving waters, will provide a significant degree of treatment of stormwater pollution. The analysis of rainfall frequencies also shows that provision of sufficient on-site detention to capture the two-month storm will capture the volume of approximately eighty percent of the storm events which occur in an average year. The reason a relatively small amount of detention can provide effective removal of stormwater pollution is that much of the total pollutant loading is washed off at the beginning of storms (the "first flush" effect). Thus, detention treatment of the volume of the two-month storm provides some removal of pollutants carried in larger storms.

In jurisdictions which have flood control ordinances requiring detention of larger storms, the cost-effective control measures for abatement of pollution from stormwater may be different. It is possible that greater pollution abatement could be obtained without increased costs where flood control structures are already in place. In these cases, the control of the two-month storm should be a minimum.

However, it is clear that detention treatment of stormwater on-site is not the only method of improving the quality of urban runoff. Source control programs can remove significant quantities of pollutants. In some areas in Southeast Michigan, these can be applied with beneficial results.

b. Policy: It is the policy of the Council of Governments that all new development shall be designed and managed to reduce stormwater pollutant loadings to receiving waters by best management practices. This shall be accomplished through:

1) Treatment of stormwater using the best available technology which has been shown to be cost-effective. This should include stormwater detention in areas where such practice is compatible with local flood control practices; and,

2) Preventive measures, or source abatement measures, such as street sweeping, leaf pickup, street washing, and litter control, and any other urban housekeeping practices aimed at reducing the quantity of pollutants carried in urban runoff.

2. Stormwater Quality Guidelines for New Development

a. Background: A number of site design and engineering practices in use today are compatible with goals of improving water quality. Many practices already provide some amount of water quality protection. For example, stormwater detention devices serve to settle out particulate matter and absorbed pollutants. These practices can be enhanced and tailored to local conditions in Southeast Michigan to provide for treatment of urban nonpoint pollution in a cost-effective manner.

Present governmental responsibility for stormwater managemnt is shared by county and local agencies. Through the Michigan Drain Code (Act 40, P.A. of 1956), county drain commissioners are authorized to plan, design, and construct storm drains which are requested by local governments. In some cases, drain construction projects include detention/retention basin construction and maintenance. County drain commissioners also review subdivision plats, under Michigan P.A. 288 of

1967, the Subdivision Control Act, to insure adequate storm drainage, and may establish special assessment districts for maintenance purposes.

Drain commissioners, however, do not have review and approval authority for all stormwater facilities. When site plans are reviewed in areas where there are no existing county drains, local governments are often the only government reviewing stormwater control proposals. Site plan reviews (authorized through zoning enabling legislation, provided that a local zoning ordinance has been adopted) and subdivision plat reviews (authorized through the Subdivision Control Act provided that a subdivision ordinance has been adopted) may include requirements related to stormwater management.

b. Policy: It is recommended that local governments consider adding or strengthening the stormwater review undertaken at the development plan review stage. Water quality as well as water quantity control aspects of stormwater management should be emphasized. Suggested guidelines are established in the Continuing Planning Agency's publication, Water Quality Guidelines for Development Plan Reviews: A Handbook for Local Officials in Southeast Michigan. These are as follows:

Development Plan Review Guidelines

1) Retain stormwater on the site through retention and detention basins, ponds, and natural drainage areas. Design stormwater management facilities and areas to provide water quality and water control benefits.

2) Use depressions, swales, wetlands, and other natural drainage areas to hold stormwater and provide for a slow release to groundwaters (when soils permit). The use of natural drainage engineering concepts can save storm drain construction costs while adding to the recreational and open space amenities of the development.

3) Minimize the amount of paved surfaces on the site.

4) Coordinate erosion control measures with longer-term stormwater management measures.

5) Identify and assess stormwater runoff flows from drainage areas above the site, including the potential runoff effects downstream. A general asssessment can be made during initial development plan reviews and detailed engineering calculations and considerations made at a later stage in the approval process.

6) Manage stormwater so that the outflow from the site after development does not exceed the outflow from the site prior to the development.

7) Coordinate stormwater management plans with open space plans for the site, encouraging the multiple use of drainage courses and stormwater management areas whenever possible.

8) Delineate stormwater easements which will be used for maintenance purposes on the development plan. The relationship of stormwater easements to utility easements should be shown on the development plan.

9) Identify stormwater routing and storage for the 100-year storm event as well as the 10-year storm event.

10) Assign clear responsibilities for long-term maintenance of retention and detention basins, including periodic cleaning of filters, removal of debris and sediment, and weed cutting. Consider the use of a performance bond if facility maintenance is assigned to a homeowner's association. Restrictive deed covenants should be considered to assure that maintenance responsibilities are legally binding.

3. Areawide Review of Major Development for Stormwater Quality

a. Background: Changes in land use in headwater areas impact water quality further downstream. Larger developments, or the cumulative effect of several smaller developments with large impervious surfaces, have a potential to seriously impact water quality beyond the locale of the development. Since these effects may transcend the boundaries of local municipalities, local review is insufficient to ensure that there are no negative impacts to regional water quality from such development. A regional review of such developments, as assigned to the Areawide Water Quality Board in Chapter II of this Plan, is therefore necessary.

The rate of delivery of stormwater runoff is primarily determined by the percentage of impervious surface in a drainage area and the kind of drainage system. Thus, a definition of large development must include an estimate of type as well as extent of surface area. Land that will be primarily impervious upon development will have potentially large water quality impacts. Since it is not intended that all single-family residential developments be reviewed at the regional level and since it is uncommon for this type of development to be greater than fifty or sixty percent impervious, only developments of large area with over sixty percent impervious area will be reviewed at the regional level.

b. Policy: It is the policy of the Council of Governments that site plans of proposed major development, which shall be submitted by the local review authority to the Areawide Water Quality Board for water quality impact review, shall be defined to include the following:

1) Development one hundred acres or greater with an impervious surface greater than sixty percent;

2) All development greater than two hundred acres; and

3) Any development having or suspected of having unique water quality problems, upon written request of the local unit of government having jurisdiction.

The Areawide Water Quality Board shall review such development plans for water quality impacts, and shall prepare and forward comments to appropriate federal, state, and local agencies.

4. Stormwater Quality Guidelines for Existing Development

a. Background: Preliminary studies regarding nonpoint pollution from existing urban areas indicate that abatement costs for stormwater runoff in existing urban areas are higher than those anticipated for new development because in existing areas the number of options available are limited. Typically, for urban runoff control, small stormwater treatment structures involve considerably higher expenditures than options that may be employed in developing areas.

The abatement of urban nonpoint pollution can be provided by a variety of combinations of control measures, including management of sources and treatment of stormwater. The most cost-effective combination of such approaches will vary locally. For these reasons, it is not desirable to define a uniform, region-wide performance criterion for stormwater released from urban areas. Also, additional study, incorporating the results of demonstration and research projects in progress under the supervision of the U.S. Environmental Protection Agency, should be undertaken for urban watersheds in Southeast Michigan.

b. Policy: The Continuing Planning Agency shall develop guidelines for use by local units of government in the control of nonpoint sources of pollution from existing development. These guidelines shall include specifications regarding source control programs such as litter control, leaf pickup, street sweeping, street washing, and the disconnection of downspouts from stormdrains. The guidelines shall also be designed to achieve best management practices for stormwater pollution control using cost-effective technology.

The Areawide Water Quality Board, with local units of government, shall monitor and review the progress of stormwater pollution control. The Continuing Planning Agency shall modify guidelines as further information on control measures is developed.

The Continuing Planning Agency, in conjunction with drain commissioners, shall develop criteria designed to implement water quality improvement measures at the time a major drain rehabilitation or expansion project is undertaken. Drain commissioners shall consider water quality protection measures in the repair, rehabilitation, and expansion of drain projects wherever feasible.

5. Urban Stormwater Quality Problem Areas

a. Background: Water quality sampling and analysis have revealed several areas where water quality is severely degraded by stormwater runoff contributions. The areas identified do not include areas served by combined sewers; these areas are addressed in the Municipal Wastewater Treatment Facilities Chapter of the Plan.

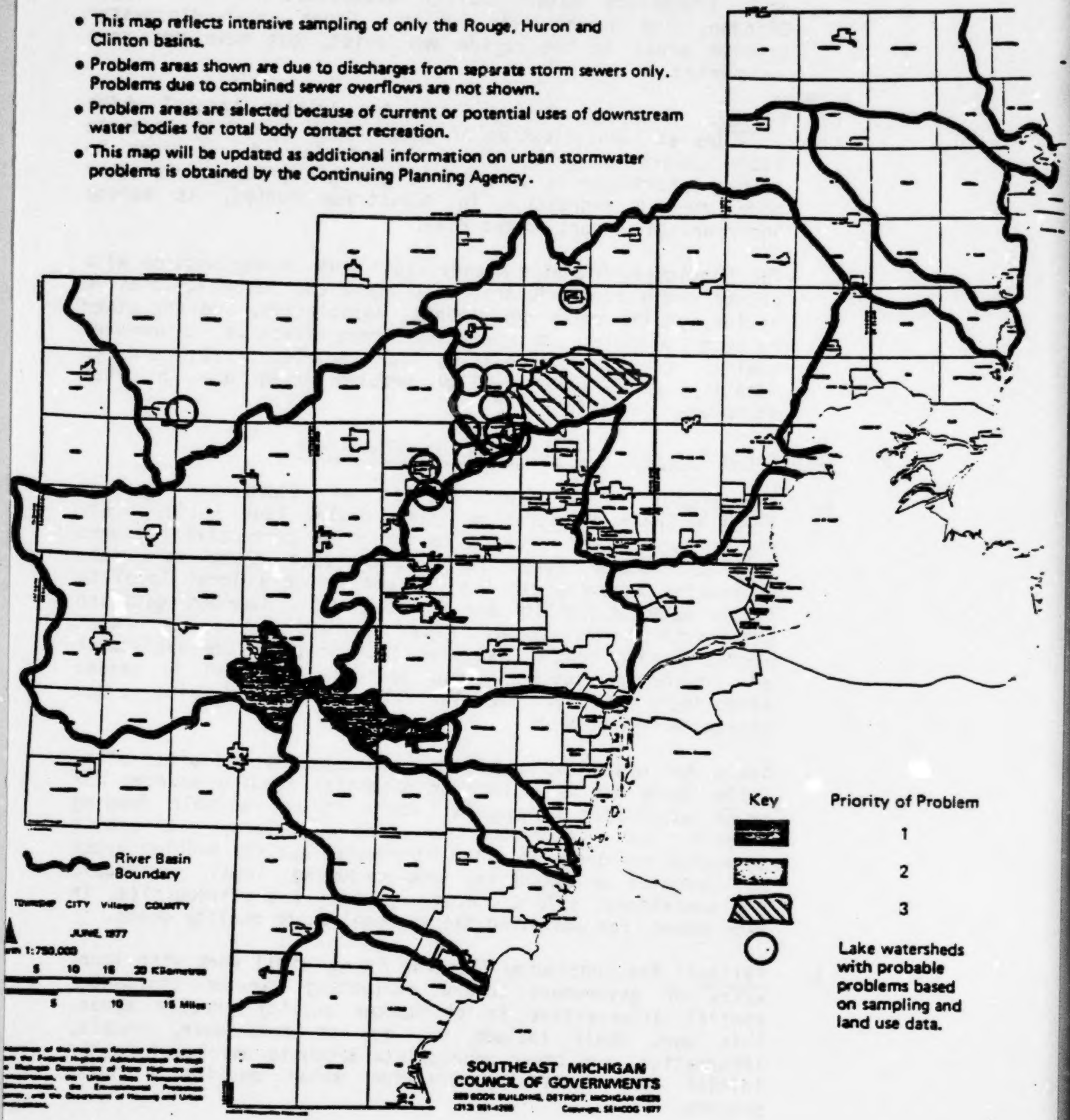
There has as yet been no allotment of funds for correction of urban stormwater pollution problems. The purpose of this identification is to direct limited resources for problem study and correction to those areas served by separate storm sewers which deserve priority. This priority is based on the severity of the problem areas and current or potential use of water for total body contact recreation downstream.

The areas tributary to rivers shown on the map entitled "Urban Stormwater Problem Areas" are selected primarily because they are immediately upstream of waters which are used for, or may be used for, swimming and other total body contact activities in the region. Those areas shown as tributary to lakes are selected because of probable urban stormwater problems in the lakes' watersheds.

The areas identified are not the complete set of such problem areas; they have been selected because water quality sampling and analysis work has been directed to these areas. Initial

FIGURE 4

URBAN STORMWATER PROBLEM AREAS



- This map reflects intensive sampling of only the Rouge, Huron and Clinton basins.
- Problem areas shown are due to discharges from separate storm sewers only. Problems due to combined sewer overflows are not shown.
- Problem areas are selected because of current or potential uses of downstream water bodies for total body contact recreation.
- This map will be updated as additional information on urban stormwater problems is obtained by the Continuing Planning Agency.

River Basin Boundary
TOWNSHIP CITY Village COUNTY
JUNE, 1977
1:750,000
5 10 15 20 Kilometres
5 10 15 Miles
Key
Priority of Problem
1
2
3
Lake watersheds with probable problems based on sampling and land use data.
SOUTHEAST MICHIGAN COUNCIL OF GOVERNMENTS
BOOK BUILDING, DETROIT, MICHIGAN
Copyright, SEMCOG 1977

work emphasized water quality assessment in the Rouge, Clinton, and Huron River Basins. Other urban stormwater problem areas in the region may exist, but have not been documented.

b. Policy: The map, "Urban Stormwater Problem Areas," which provides an identification of those areas served by separate storm sewers in which the implementation of practices to control stormwater is critical to maintain or to permit total body contact recreation in downstream bodies, is hereby incorporated as part of the Plan.

The Continuing Planning Agency shall work in conjunction with county drain commissioners, road agencies, local legislative bodies, public works departments, associations and any other related agencies to identify cost-effective stormwater quality control alternatives for problem areas and to identify other water quality problem areas due to urban stormwater pollution.

6. Implementation in Urban Stormwater Problem Areas

a. Background: Upon identification of stormwater quality problem areas and problem storm drains (see Policy D.5), further works are required to determine corrective measures and to obtain funds for implementing these measures. Corrective measures are best determined on a local level to insure both feasibility and acceptability. However, data and analytical requirements for determining the most cost-effective control measures often require the assistance of outside jurisdictions and agencies in order to assess effectively all of the variables associated with urban stormwater management.

Costs for urban stormwater control measures are often high. While there are a variety of potential funding sources for urban stormwater management, there is no reliable funding support for correcting existing problems. Directing potential resources to urban stormwater quality problem areas will require an extensive, time-consuming, legal, political, and educational effort. However, this is a prerequisite, in many cases, for achieving the regional water quality goals.

b. Policy: The Continuing Planning Agency shall work with local units of government toward evaluating various stormwater control alternatives in stormwater quality problem areas. This work shall include the use of data base, models, information, and other appropriate products developed in the initial and continuing areawide water quality planning process.

E. AGRICULTURAL AND RURAL NONPOINT SOURCES OF WATER POLLUTION

Much of the region's land is devoted to agricultural and rural uses. Approximately seventy-two percent of the land of Southeast Michigan has been identified within these two categories. Basically, because of topography and soil characteristics and because of present land management approaches, water pollution from agricultural and rural areas is not generally a major threat to the region's overall water quality. However, serious pollution problems do exist within certain specific areas and must be controlled. The following set of policies serves to identify those areas and the institutional arrangements and responsibilities for reducing these nonpoint sources of water pollution.

1. (deleted through 1981 Plan amendment)

2. Delineation of Specific Priority Areas on Rural Lands

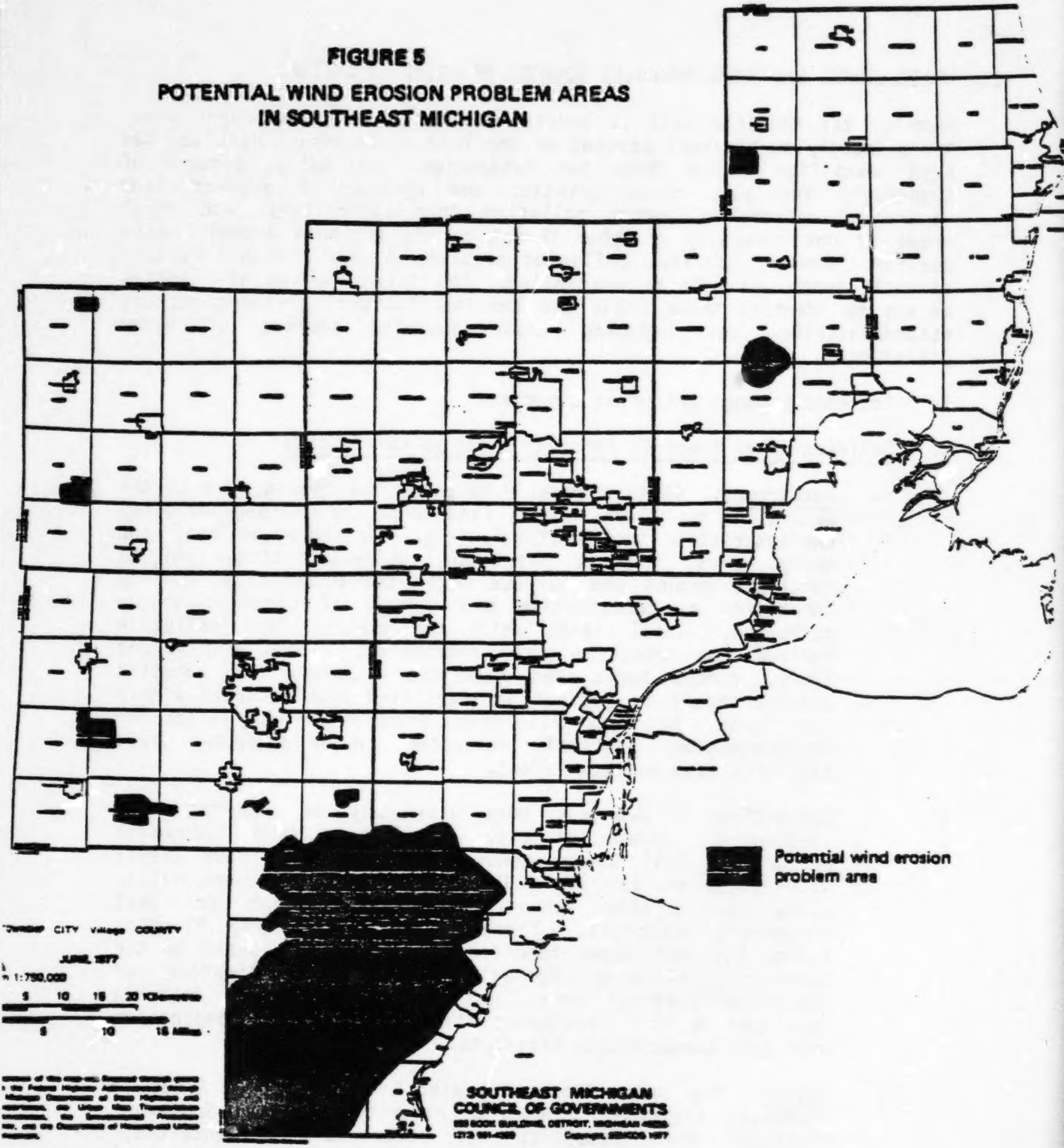
   a. Background: Certain rural locales in the region, due to the natural (e.g., slope, soils, land cover and drainage density) characteristics and cultural (e.g., presence of beef and dairy herds, tillage practices) characteristics, and to localized ground and surface water characteristics, can be identified as contributing high levels of nonpoint source pollution. Rural lands which can exhibit such pollution include row crop, pasture, recreation, mining and vacant lands, stream banks and roadsides. Control of nonpoint sources should be focused on identified problem areas within such lands. By classifying these areas as priority areas for implementation, available resources can be expended where they will have maximum effect.

      Correction of problems must ultimately be undertaken by landowners, generally with assistance from technical personnel. Soil Conservation Districts (SCDs) have worked with landowners for over 30 years in developing conservation plans and gaining acceptance of conservation and best management practices. Therefore, the Continuing Planning Agency has delineated specific priority areas, based on the Continuing Planning Agency's general identification of designated critical areas, and in conformance with criteria developed by the Continuing Planning Agency in conjunction with Soil Conservation Districts.

   b. Policy: The maps, "Potential Wind Erosion Problem Areas in Southeast Michigan," "Specific Priority Areas in Southeast Michigan for Reduction of Cropland Sedimentaiton," "Watersheds in Southeast Michigan Requiring Improved Animal Waste Management in Order to Protect Water Quality," and "Streambank Erosion Problem Areas in Southeast Michigan,"

FIGURE 5

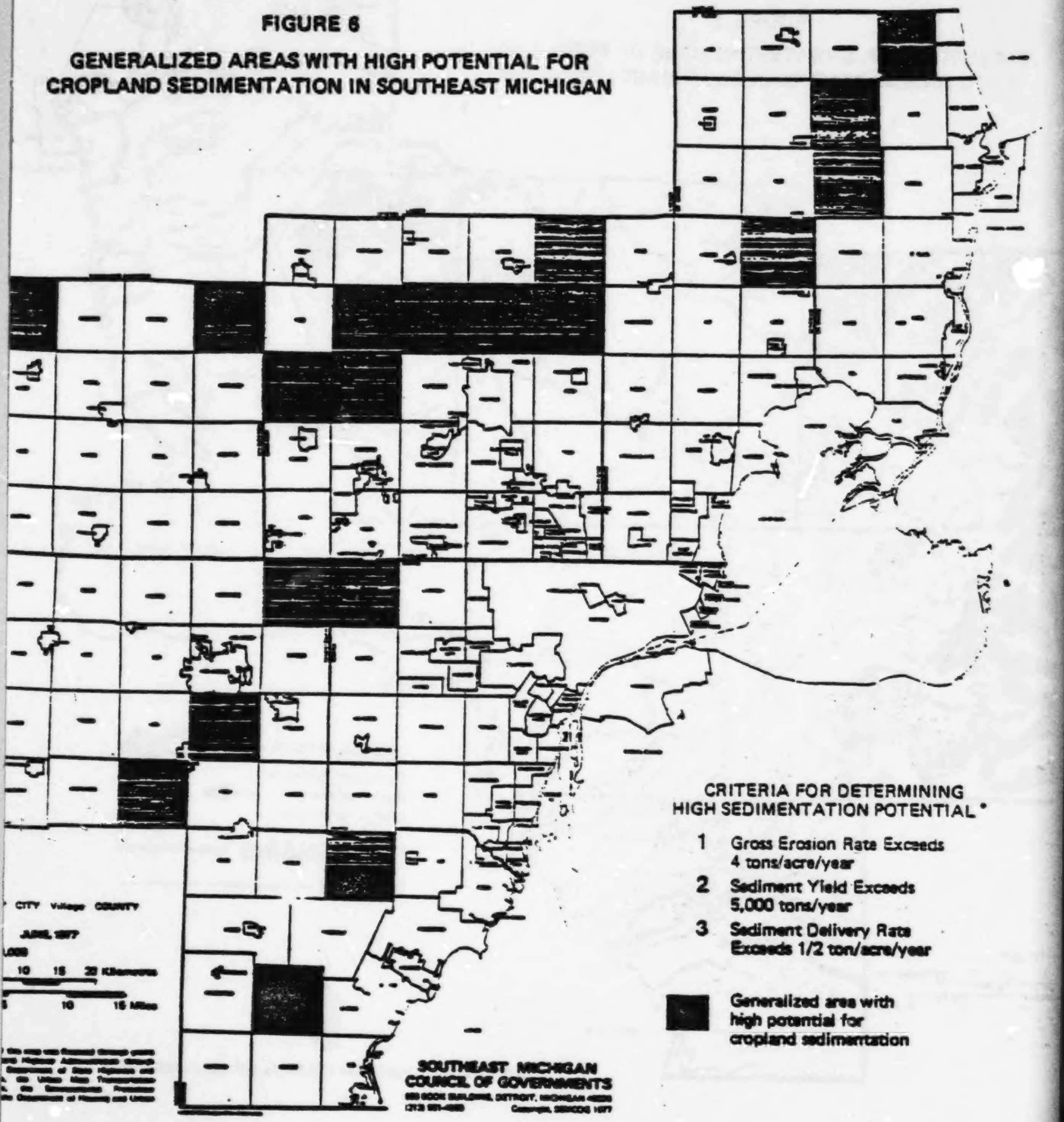
POTENTIAL WIND EROSION PROBLEM AREAS IN SOUTHEAST MICHIGAN


▬ Potential wind erosion problem area
TOWNSHIP CITY Village COUNTY
JUNE, 1977
1:750,000
5 10 15 20 Kilometres
5 10 15 Miles
SOUTHEAST MICHIGAN
COUNCIL OF GOVERNMENTS
Copyright, SEMCOG 1977

Adapted from Southeast Michigan Water Resources Study, USDA.

FIGURE 6

GENERALIZED AREAS WITH HIGH POTENTIAL FOR CROPLAND SEDIMENTATION IN SOUTHEAST MICHIGAN


CITY
Village
COUNTY
JUNE, 1977
10
15
20 Kilometers
10
15 Miles
SOUTHEAST MICHIGAN
COUNCIL OF GOVERNMENTS
Copyright, SEMCOG 1977

CRITERIA FOR DETERMINING HIGH SEDIMENTATION POTENTIAL *

1 Gross Erosion Rate Exceeds 4 tons/acre/year

2 Sediment Yield Exceeds 5,000 tons/year

3 Sediment Delivery Rate Exceeds 1/2 ton/acre/year

■ Generalized area with high potential for cropland sedimentation

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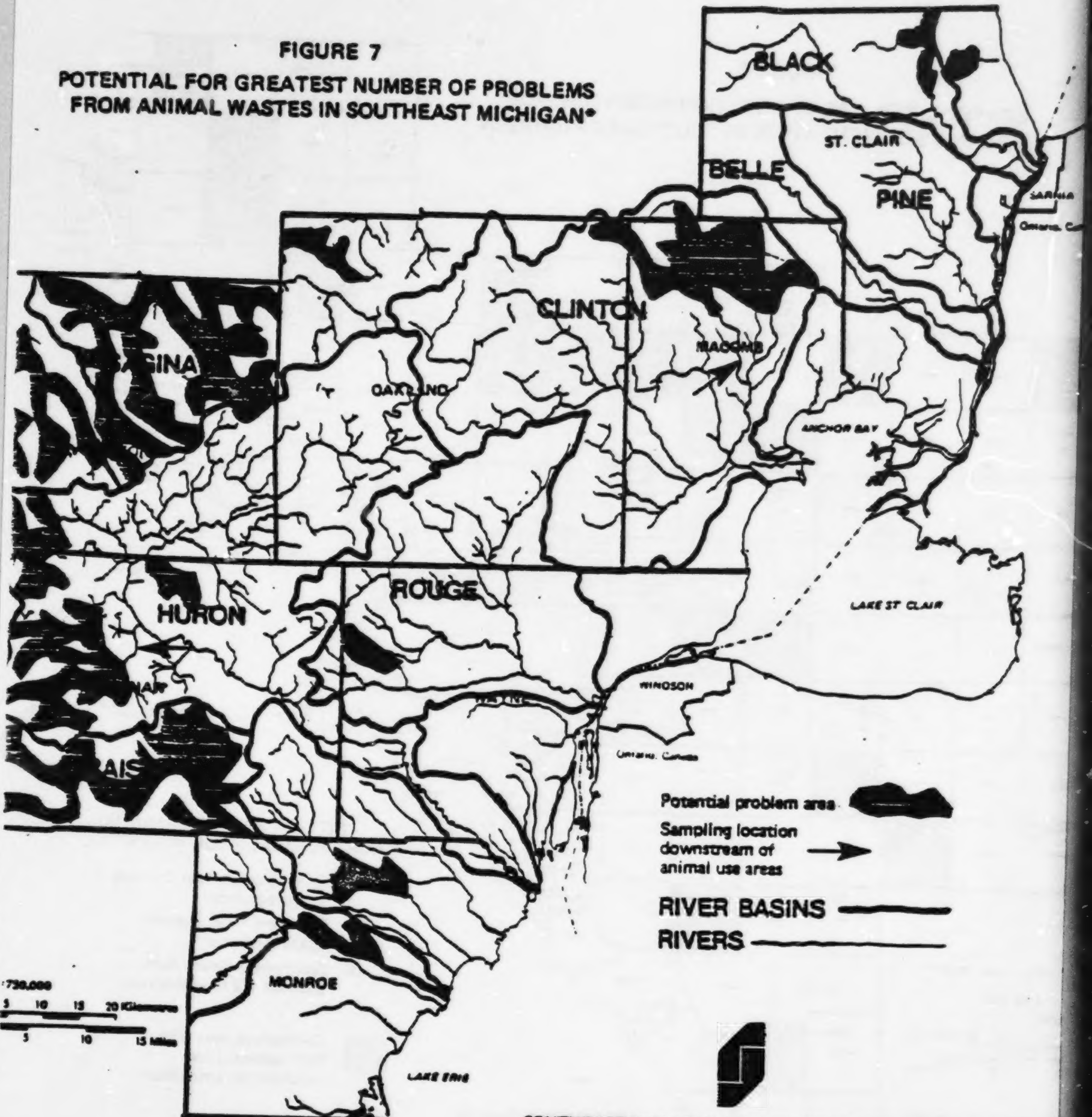
* Gross erosion refers only to soil movement. Sediment delivery rate refers to the amount of eroded material expected to enter the water from each cropland acre. Sediment yield is the predicted total for all cropland acres in a township.

FIGURE 7

POTENTIAL FOR GREATEST NUMBER OF PROBLEMS FROM ANIMAL WASTES IN SOUTHEAST MICHIGAN*


BLACK
ST. CLAIR
BELLE
PINE
SARNIA
Ontario, C
CLINTON
MACOMB
AGINA
OAKLAND
ANCHOR BAY
LAKE ST CLAIR
ROUGE
HURON
WINDSOR
WAYNE
Ontario, Canada
AIS
MONROE
LAKE ERIE
1:730,000
5 10 15 20 Kilometers
5 10 15 Miles
Potential problem area
Sampling location downstream of animal use areas
RIVER BASINS
RIVERS

SOUTHEAST MICHIGAN COUNCIL OF GOVERNMENTS which depict the findings of the Continuing Planning Agency, working in conjunction with the local agricultural community, are hereby incorporated as a part of the Plan. The areas identified on these maps shall be designated as priority areas for implementation of programs to reduce nonpoint pollution from wind erosion, sedimentation on farm and vacant land, animal wastes, and streambank erosion, respectively.

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*Each segment has been mapped upon evidence of high animal densities, identified management problems, proximity to major streams and, where available, sampling information. Some problems may occur along unmapped segments or along unmarked rivers. To ensure confidentiality, no attempt has been made to locate specific problem areas. Arrows indicate locations downstream of animal use areas where water quality sampling results indicate potential problems.

The Continuing Planning Agency shall work with the agricultural community to refine delineation of priorities by county, consistent with comprehensive state agricultural nonpoint source management strategies.

3. Fringe Area Water Quality Problems

a. Background: Plat books in each county of Southeast Michigan show a pronounced trend toward division of farmland into smaller parcels. This is particularly apparent within the rapidly developing areas around the major metropolitan areas. When such land is purchased for future subdivision, it may be held several years for speculation and, in order to pay for taxes on the property, the farmland typically is rented to neighboring farmers prior to development. During this time, the land usually is farmed intensively, since the farmer has no long-term commitment to the land. Intensive farming can make the land more subject to erosion than it had been prior to the change of ownership.

b. Policy: The Continuing Planning Agency shall develop a strategy for dealing with water quality problems in fringe areas where rural land is being intensively farmed prior to urban development.

4. Rural Nonpoint Source Program Development

a. Background: Currently, Soil Conservation Districts, the Agricultural Stabilization and Conservation Service, and the Cooperative Extension Service deal with nonpoint source problems in rural areas. Water quality, however, is only one of many responsibilities confronting these three institutional structures. These groups are guided in program development at the state level, and there is no established or structured system for their ongoing participation in areawide water quality planning. In addition, drain commissioners, in their role relative to drainage systems, are a part of this rural nonpoint management system.

b. Policy: It is the policy of the Council of Governments that programs for implementing best management practices to achieve improved water quality in rural areas in the ongoing planning work should be prepared jointly by the Soil Conservation Districts, the Agricultural Stabilization and Conservation Service, the Cooperative Extension Service, and, as appropriate, county drain commissioners, and submitted to the Continuing Planning Agency for acceptance and inclusion in the ongoing Water Quality Management Plan.

5. Voluntary Farm Planning

a. Background: Compliance with the water quality goals for agricultural lands may be possible without the passage of new legislation or the use of regulatory measures. Though the primary emphasis of Soil Conservation Districts' efforts has been directed toward soil conservation and not water quality, they have a proven record of working voluntarily to reduce sedimentation and to implement certain best management practices. It has not been demonstrated that regulatory approaches to agricultural sources of water pollution are required; however, voluntary implementation of best management practices will need to be evaluated in the continuing planning process to determine its effectiveness.

b. Policy: The Areawide Water Quality Board shall continue to evaluate the effectiveness of voluntary farm planning methods, determine the need for enforcement of agricultural land management practices and recommend incorporation of its findings no later than the third annual Water Quality Management Plan update. This evaluation should be made in conjunction with representatives from the Michigan Department of Natural Resources, Michigan Department of Agriculture, Soil Conservation Districts, other areawide water quality planning agencies and other interested parties and agencies.

6. Education of Rural Landowners

a. Background: Farm management practices presently are promoted on the basis of improving or preserving the land's productivity. To a large extent, however, the goals of food and fiber production correspond with water quality goals. Productivity goals have been promoted with respect to a farmer's self interest, while water quality goals are less tangible. Water quality goals are formulated as part of a system of compliance with federal law. Therefore, there must be a new impetus for education and promotion to landowners on the need to correct many long-identified problems. Since compliance with the Water Quality Management Plan must ultimately involve acceptance by private landowners and since the Cooperative Extension Service and Soil Conservation District have an effective and established educational network in each county, these two agencies would be effective vehicles of promoting greater understanding of water quality concerns.

b. Policy: It is the policy of the Council of Governments that all Soil Conservation Districts and the Cooperative Extension Service should develop and implement an educational program for rural landowners consistent with the overall educational strategy set forth by the Continuing Planning Agency.

7. Designated Critical Problem Area

a. Background: The concentration of land management problems and the impact of existing land use practices on receiving waters in an area within Washtenaw and Monroe counties cause the area to be eligible for funding under provisions set forth in the Rural Clean Water Program. Area boundaries and required level of treatment have been determined with the input and concurrence of respresentatives of Soil Conservation Districts, Cooperative Extension Service, Agricultural Stabilization and Conservation Service, the Huron River Watershed Council, Washtenaw County Planning Commission, the Soil Conservation Service and the Forest Service of MDNR.

The proposed project area contains 137,750 acres of cropland, most of it is classified as "prime" agricultural land. Additionally, the Mill Creek portion of the project area contains the largest density of livestock in the region.

Management problems are varied. Fall plowing is common. There are many animal waste storage problems and cases of improper manure spreading practices. Wind erosion is a serious problem in the southern portion of the project area. Roadside and streambank erosion areas have been identified throughout the area.

Fecal coliform counts in Mill Creek have frequently exceeded recommended limits during wet weather periods. Their highly fluctuating nature suggests intermittent sources. This helps to limit the use of Dexter-Huron Metropark, Huron Clinton Metropark and Gallup Park. Sampling results in the headwaters of the Saline River also have revealed high fecal coliform counts.

Sedimentation problems are more severe in the Saline River than in the Mill Creek portion of the Huron. During a one-year storm sampled by the Corps in 1977, about sixty pounds of sediment per second were being discharged to Lake Erie from the Raisin River. About one-third of this amount may be attributable to the Saline River portion of the Raisin River Basin.

Full documentation of the designated critical problem area appears in Model Implementation Program of Nonpoint Source Control Measures for Portions of the Huron and Raisin River Basins - the Saline Valley Project: A Preliminary Proposal, SEMCOG, November 1977.

On March 5, 1980, the Saline Valley project was authorized by the Secretary of the U.S. Department of Agriculture. The project provides financing for implementation of best management practices in the area identified on the map, "Designated Critical Agricultural Problem Area."

b. Policy: The map, "Designated Critical Agricultural Problem Area," is hereby incorporated as part of the Plan. The Continuing Planning Agency shall continue to participate with Federal and State agencies, and local implementing agencies in the Saline Valley Project. The Continuing Planning Agency shall work with local agricultural agencies throughout the region to maximize the transfer of technologies developed in the Saline Valley Project to other applicable areas in Southeast Michigan.

F. CHEMICAL USE

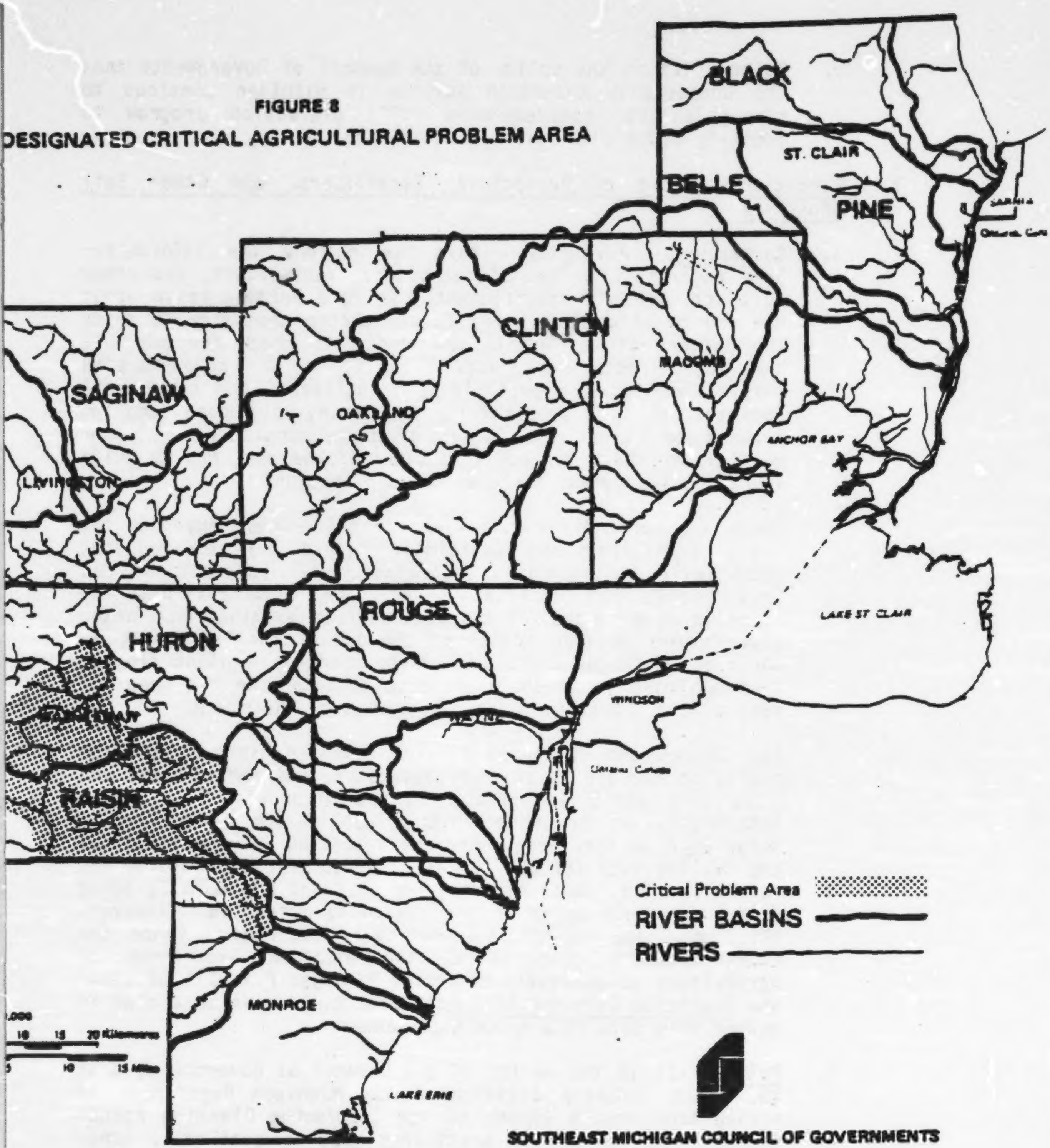
The application of certain chemicals is important to farming and road management activities within Southeast Michigan. Pesticide, fertilizer, and herbicide use by farmers contribute to greater yields in food and fiber production while the application of chlorides to streets and highways helps to improve winter and summer driving conditions. Though these beneficial uses are recognized, it is important that chemicals are applied using rates and procedures which minimize negative water quality impacts. To this end, the following policies are directed towards establishing a more comprehensive information base regarding the relationship between chemical use and water quality, identifying and assessing specific problems, developing application guidelines and creating greater understanding concerning potential threats to water quality.

1. Soils Evaluation Procedures

a. Background: Currently a comprehensive set of data exists within Michigan by which soils are evaluated for nutrient content. However, this information and its delivery system needs strengthening by developing a program utilizing existing soil text information with local knowledge of fertilizer use practices, combined with a knowledge of soils and cropping requirements. Such information is essential for assessing the overuse of certain fertilizer compounds and soil additives. A more thorough fertilization monitoring program could provide economic savings to major fertilizer consumers and could help to reduce nutrient levels in receiving waters of Southeast Michigan.

FIGURE 8

DESIGNATED CRITICAL AGRICULTURAL PROBLEM AREA


BLACK
ST. CLAIR
BELLE
PINE
SARNIA
Ontario, Canada
CLINTON
MACOMB
OAKLAND
SAGINAW
LIVINGSTON
ANCHOR BAY
LAKE ST CLAIR
ROUGE
HURON
WINDSOR
WAYNE
Ontario, Canada
WASHTENAW
RAISIN
MONROE
LAKE ERIE
Critical Problem Area ▨
RIVER BASINS
RIVERS
,000
10 15 20 Kilometers
5 10 15 Miles

SOUTHEAST MICHIGAN COUNCIL OF GOVERNMENTS

b. Policy: It is the policy of the Council of Governments that the Cooperative Extension Service in Michigan continue to strengthen its comprehensive soils evaluation program to identify background levels of nutrients.

2. Reporting of Use of Pesticides, Fertilizers, and Other Soil Additives

a. Background: Presently within the region, the information base regarding the use of pesticides, fertilizers, and other soil additives is insufficient. As more becomes known about the impact of chemical use, it may become necessary to trace the pattern of use within the region to check for possible harmful effects to water quality. A comprehensive information base on pesticides, fertilizers, and other soil additive use is a prerequisite to setting up a good sampling program to assess the impact of these substances on water quality, to check for possible cases of overuse, and to guide educational programs for chemical application.

There are currently regulations and guidelines regarding the use of fertilizers and pesticides. Federal law requires that potentially dangerous pesticides be classified as "restricted" and applicators of such chemicals must be licensed upon successful completion of an examination. Also, distributors provide advice on the use of chemicals and, in addition, Michigan State University operates a pilot program that monitors incidence of insects to determine the need for pesticide application in specific areas of the state.

The Cooperative Extension Service, however, in advising the public on the application of pesticides, and fertilizers, and other soil additives application and in providing soil test information to determine optimum application rates, has a major role in this area. Because Extension Service personnel are dealing with the public daily on matters of pesticide and fertilizer use, their knowledge of what and how much is being used in various parts of the region is extensive. However, this knowledge is not systematically recorded. Since the Plant Industry Division of the Michigan Department of Agriculture is currently enforcing Michigan P.A. 171 of 1976, the Pesticide Certification Act, they could develop a plan to gather this data in a systematic manner.

b. Policy: It is the policy of the Council of Governments that the Plant Industry Division of the Michigan Department of Agriculture should report to the Continuing Planning Agency annually on the use of pesticides and, as available, other soil additives, applied throughout Southeast Michigan. This information on the use of these chemicals may be used to assess their water quality impacts.

3. Fertilizer and Pesticides Education Program

a. Background: The Cooperative Extension Service is the major educational institution in each county CES currently that instructs the rural and urban population on the proper use of fertilizers and pesticides. Its past efforts have not emphasized the need to protect water quality. A systematic educational process as an integral component of educational work is currently needed with respect to water quality.

b. Policy: It is the policy of the Council of Governments that the Cooperative Extension Service should continue and expand its educational program so that urban and farm populations in Southeast Michigan become more aware of potential water quality problems caused by the improper use of pesticides and fertilizers and so that they learn to identify sensitive areas in which special precautions are required.

4. Salt Application in Environmentally Sensitive Areas

a. Background: Data analysis has shown that inland lakes with no major drainage outlets and only minor inlets are susceptible to chloride contamination from road salting within the lake's watershed. Roads which follow major floodplains and roadways in areas which have shallow usable aquifers also present situations where road salt use may cause excessive amounts of sodium and chloride to build up in streams and groundwater reservoirs.

Research into various deicing alternatives is currently underway at the U.S. Environmental Protection Agency. This and other work should assist in defining those alternatives which will be effective in maintaining highway safety and water quality. Because of the susceptibility of "fragile" areas to contamination from road salts, feasible alternatives to salt as a deicing agent should be considered.

b. Policy: It is the policy of the Council of Governments that the State, in conjunction with the county and local road maintenance agencies should develop guidelines for the use of alternate deicing agents and/or alternative winter road management practices for the protection of surface and groundwater in the fragile areas to be designated by the Continuing Planning Agency. Such guidelines shall also take into consideration operationally sensitive areas where vehicle safety is paramount. The Continuing Planning Agency should assist these agencies by providing information on the types of deicing alternatives and their effectiveness.

5. Local Deicing Programs

a. Background: Maximum vehicular safety is a major consideration guiding the use of deicing salts during the winter season by the Michigan Department of Transportation, and county and local road maintenance agencies. To insure that safety is maintained, large quantities of salt are spread on state, county and local roads. One of the most important factors controlling the amount of salt use is the rate at which it is applied during each storm event.

From a water quality perspective, both the sodium and chloride elements of salt are potential pollutants that must be carefully regulated so as not to exceed State drinking water standards. Also, potential contamination could result from de-caking compounds and other additives or impurities found in the salt mixtures. The initial groundwater quality analysis performed during the water quality management planning effort indicates that the potential to degrade ground and surface water quality is a function of the total amount of sodium and chloride introduced into the environment each season. When the assimilative capacity of the groundwater is considered in terms of the road salt application rate which could be used to achieve these totals, it appears that the rates which provide optimum highway safety also provide water quality protection. These recommended rates are listed in Table 1 on the next page.

Data that appear in this table were reported by the four identified agencies. The nine hundred pound figure from the Water Quality Management Planning Work was based on a water quality analysis performed on a Huron River Watershed where data was sufficient to perform such an analysis. The figure assumes that this basin is typical of many hydrologic environments in Southeast Michigan. However, in other watersheds either higher or lower rates might prove to be appropriate.

Although many road maintenance agencies take care to use optimal application rates, there are some cases in which the rates presented in Table 1 are exceeded. A survey of thirty-seven road maintenance agencies in Southeast Michigan shows that a wide variability exists in the amount of salt used per mile during the winter season and that, consequently, average application rates may be in excess of those recommended.

b. Policy: The Areawide Water Quality Board shall utilize locally available salt application data to help determine whether reported application rates used under various

TABLE 1

GUIDELINES FOR SALT APPLICATION RATE FOR HIGHWAY SAFETY AND WATER QUALITY PROTECTION

Agency	Application Rate
Michigan Department of State and Transportation	Up to 600 lbs./2-lane road mile for road with less than 30,000 trips/road mile. Up to 1,000 lbs./2-lane road mile for roads with more than 30,000 trips/road mile.
Salt Institute	Up to 700 lbs./2-lane road mile.
National Highway Research Board	Up to 800 lbs./2-lane road mile.
Water Quality Management Planning Work	Up to 900 lbs./2-lane road mile.

conditions adequately address water quality problems. Program guidelines similar to those presented in the example in Table 1 shall be developed by the Continuing Planning Agency in conjunction with State, county, and local road management agencies and adopted by the Areawide Water Quality Board for use in program review to determine the extent to which county and local salting practices should be adjusted to accommodate threats to the environment. Based on analysis of this data, the Areawide Water Quality Board shall recommend to the Continuing Planning Agency Plan changes necessary to protect ground and surface water against excessive application of salt.

The Continuing Planning Agency's educational strategy shall include programs, directed to local units of government, on the proper use of road salt to minimize negative impacts on water quality.

6. Chloride and Oil Use in Dust Control

a. Background: It is difficult to determine the water quality impacts of dust control chlorides because of the nature of the movement of calcium chloride compounds through the soil and the hydrology of the summer season in which dust control chlorides are applied. In addition, there appears to be no established optimal rate at which calcium chloride application will control dust on unpaved roads. Although dust control chlorides account for only approximately twelve percent of the total amount of chlorides introduced into the environment from road maintenance sources, these may have an important impact on the water quality, particularly the groundwater quality.

Oils, which are employed in dust control, can also contribute to water quality degradation. In addition to its own properties, oil may contain toxics that can drain into receiving waters.

MDNR set forth its position on road oiling in April, 1980, permitting road oiling to continue through 1980. Rules proposed for Michigan Public Act 64 of 1979, the Hazardous Waste Management Act, will designate waste oils as a hazardous waste, and will eliminate their use for road oiling.

In addition, regulations promulgated under the Federal Toxic Substances Control Act prohibit the use of waste oil containing any detectable concentrations of PCB's as a dust control agent as of July 2, 1979. PCB's have been found in waste oils by MDNR in many cases. Also, regulations under the Federal Resource Conservation Recovery Act list various waste oils as a hazardous waste.

b. Policy: The Continuing Planning Agency, in cooperation with the State and county highway departments, shall undertake a study of the water quality impacts of dust control chlorides and formulate guidelines for their safe use. Rules promulgated under Michigan's Hazardous Waste Management Act, and the Federal Toxic Substances Control Act and Resource Conservation and Recovery Act, shall govern application of oil to roads within the region.

G. SEPTIC SYSTEMS

The vast amount of domestic wastewater within Southeast Michigan is treated by municipal wastewater treatment facilities. However, based on 1970 data, approximately fifteen percent of the population was located in areas served exclusively by individual on-site disposal systems. Septic systems, when properly constructed and maintained, do provide an effective method of waste treatment. However, analysis indicates that improvement relative to planning and management of septic systems should be implemented to reduce pollution to ground and surface waters. The following policies address the need for improved land use planning, review of State sanitary code guidelines, modifications to county codes, an evaluation of the feasibility of special sanitary districts, and the monitoring of groundwater quality and septic system management.

1. Land Use Planning for Unsewered Development

a. Background: Local land use planning and zoning have been largely ineffective as related to water quality in controlling development in sensitive areas such as along lakefronts, over shallow usable aquifers, and over aquifer recharge areas.

Local plans and zoning ordinances often do not contain criteria which effectively regulate development in areas that are either not environmentally suited or have limited suitability for development. In some cases, as a result of the lack of environmental criteria and maps to guide planning, decisions on site suitability for unsewered development are made by the county health department through the permit process. Planning criteria which define environmental suitability for unsewered development include topographic, soil, and geologic conditions. The county soil survey maps developed by the Soil Conservation Service are a particularly useful data source. Much of this soil and geologic data has been compiled into computerized data bases, developed by the Council of Governments, and these data have been used to generate maps of limitations for development with septic systems.

Currently, political and economic pressures often force development in areas in which optimal septic system performance cannot be achieved. Documented cases from several parts of the region can be used to illustrate the water quality impact of unsewered development in environmentally sensitive areas. Some communities do use planning and zoning to control unsewered development. From a water quality perspective, it is important that all communities use these methods rather than relying solely on the health permit process to regulate unsewered development.

b. Policy: The Continuing Planning Agency, in cooperation with local and county planning agencies, shall develop standards and guidelines for use by local units of government in developing local land use planning policies and zoning ordinance amendments aimed at reducing or eliminating the potential for surface or groundwater contamination from unsewered development.

Local plans and zoning ordinances may be reviewed by the Areawide Water Quality Board to identify those plans and ordinances which require additional environmental provisions to insure that ground and surface waters are adequately protected from the potential impacts of futre unsewered residential development. The Areawide Water Quality Board will advise local communities of planning or zoning changes necessary to protect surface and groundwater. The acceptance of such advice is left to the discretion of the local unit and shall not be viewed as mandatory.

The Continuing Planning Agency shall develop a septic system constraint map for use by local units of government as a guide to local planning and development in the absence of a locally prepared map which more accurately reflects environmental factors.

Local units of government are encouraged to develop and use detailed septic system constraint maps for local zoning and land use planning. Where detailed constraint maps are not available, local units of government should use the information contained on SEMCOG's maps of limitations for development with septic systems.

2. Evaluation of State Sanitary Code Recommendations

a. Background: The environmental health division of the public health department in each county has the principal responsibility for regulating the design, construction and maintenance of septic systems in unsewered areas. The criteria and standards used by each county health department to evaluate septic system suitability and design vary from county to county. This variability in county sanitary code requirements ranges from differences in siting criteria, such as isolation distances to well water supplies or lakes and streams, to specific drainfield design requirements.

The proper functioning of a septic system is dependent on its location, design, method of construction, and maintenance. The wide variability in the sanitary code requirements is distinguished mostly by county borders rather than by environmental variations. Several counties have code provisions that are less than those recommended by the State Health Department. However, technical justification of State guidelines does not always exist.

b. Policy: It is the policy of the Council of Governments that the Michigan Department of Public Health should convene a committee to review the State sanitary code guidelines pertaining to septic system design and construction. Committee review should include isolation distances to well supplies and water bodies, depth to water table, and other siting criteria, as well as system design criteria. It is further recommended that the Committee include, but not be limited to, representatives from the Southeast Michigan county health departments, SEMCOG and selected technical representatives from universities, the Soil Conservation Service, and the State Geological Survey. The Continuing Planning Agency shall utilize the recommendations of the Committee to determine the feasibility and necessity of recommending modifications to the county sanitary codes so that they will be in conformance with the State's guidelines.

3. Required Emphasis in County Practices Relating to Septic Systems

a. Background: Analysis and comparison of the sanitary codes which regulate the design, construction and maintenance of septic systems in each county in Southeast Michigan provided some unique solutions to problems common to all counties and revealed some areas where enhanced programs would help to assure protection of ground and surface waters.

The proper functioning of the drainfield component of the septic system is based on the presence of an aerated zone. While the proper thickness (distance between land surface and top of water table) of this aerated zone is not clearly defined, it is known that the extent of the zone fluctuates seasonally. Therefore, proper system design must be based on the most restrictive water table conditions. In some cases, the most restrictive conditions can best be defined by re-evaluating the water table level in the Spring.

Installation practices are also important in assuring that the septic system operates at its maximum efficiency in storing and treating domestic wastewater. If the surface of the soil in the drainfield is disturbed or "smeared" during construction, the drainfield will be subject to premature failure. To regulate the construction of each septic system, each county provides at least a final inspection of the system before it is put into operation. However, a final inspection cannot evaluate the quality of the system installation during construction. Staff and funding constraints often prevent more frequent inspections of each system. Public Act 385 of 1965 requires licensing to protect homeowners and offers a potential method by which proper installation practices can be further promoted.

Septic system maintenance is also important in assuring proper functioning. If sludge from the tank is allowed to flow into the drainfield, the infiltrative soil surface can become clogged and cause field failure. Each sanitary code in Southeast Michigan recommends, but does not require, that the septic tank sludge be removed every two to three years. These maintenance recommendations are not required because of the problems of enforcement, however, it could be possible to develop a maintenance system using the licensed septic sludge haulers as a key component of the management system. Also, intensified educational programs would encourage landowners to realize the importance of septic system maintenance, so that voluntary compliance with sound maintenance practices would be increased.

b. Policy: It is the policy of the Council of Governments that each county should emphasize the following in its programs to control septic systems:

1) provide assurance that the water table level indicated during the soil evaluation shows the highest annual level.

2) provide for thorough inspection of septic systems during their installation to assure conformance with code provisions.

3) provide a comprehensive educational program designed to inform local elected and appointed officials, and residents of proper operation and maintenance requirements for their septic systems.

The Continuing Planning Agency shall address proper septic system management as part of its overall educational strategy.

The State should consider development of a licensing program to be administered by certified county health departments for septic system and drainfield installers.

4. Institutional Alternatives for Septic System Maintenance Districts

a. Background: Some small municipalities are encountering financial problems associated with the high cost of constructing, maintaining, and operating sewers and centralized treatment facilities. The conventional option of providing gravity sewers, wastewater treatment plants, and sludge disposal may be extremely expensive and lead to unacceptably high burdens on the residents, even with Federal and State capital subsidies.

The use of septic systems to treat community wastewaters can eliminate the need for costly collection, conveyance, and waste treatment systems and can result in substantial savings for the Federal government, the local community, and individual homeowners. If properly located, designed, constructed, operated, and maintained, septic systems provide a viable alternative to conventional systems. Where the natural conditions are suitable, it now appears that a well-designed on-site system wiht regular maintenance can provide efficient wastewater treatment.

Although modern public health codes generally effectively regulate septic system installation, persistent unregulated problems are due to the lack of adequate septic system related maintenance, education, and water quality monitoring. Special septic system management districts can alleviate these three problems. The U.S. Environmental Protection Agency is emphasizing the need to evaluate septic system management districts in the wastewater facility planning process and has accordingly established many financial incentives.

b. Policy: The Continuing Planning Agency shall promote both the proper development and cost-effectiveness evaluation of septic system management district alternatives during wastewater planning activities within the region. The Agency's publication entitled Institutional Alternatives for Septic System Management Districts in Southeast Michigan should be used as a guide for developing and evaluating district alternatives.

5. Areawide Monitoring of Septic System Management

a. Background: In assessing the managment system authorized by the sanitary code in each county, it was apparent that, in many cases, the appeal procedure provided a potential loophole to circumvent the provisions of a sanitary code. The appeals procedure provides the landowner the opportunity to disagree with the decision of the county sanitarian when a health permit is denied for site suitability reasons. Although septic system failure and other septic system related water quality problems are noted, there is very little data with which to assess the role of the appeals procedure in the problem.

There are many borderline situations in which septic systems are approved by county health departments. Also, county codes permit site design modifications that can be used to allow landowners an opportunity to develop sites that are not suited for conventional septic systems. Since many counties have few remaining areas in which soils are suited for conventional septic systems, modifications are becoming increasingly common.

b. Policy: The Areawide Water Quality Board shall establish a regional data base and conduct, in cooperation with county health departments, an analysis of septic system treatment efficiencies and failures. This data shall be analyzed for causes of failure. The analysis shall be used by the Continuing Planning Agency for development of guidelines for septic system use.

6. Water Quality Monitoring in Septic System Problem Areas

a. Background: The intensive use of septic systems as a sewage treatment and disposal method may cause water quality problems in certain areas even if the area is suited for septic systems. Although each individual system may have been properly designed and constructed, the total impact of relatively high density unsewered development can cause severe contamination of lakes and groundwater reservoirs. High density unsewered development has been defined by the U.S. Environmental Protection Agency as one hundred households served by on-site waste treatment systems per square mile. The potential problem is increased if water supply wells tap unprotected shallow aquifers. Intensive unsewered shoreland development around inland lakes can be a major cause of increased eutrophication. To date, there has been no attempt to collect a comprehensive set of data to identify problem areas or to monitor the impact of septic system use on a continuing basis.

b. Policy: It is the policy of the Council of Governments that groundwater quality shall be monitored in areas that have high densities of septic systems, and proximity to lakes or usable aquifers. The monitoring, to be done by State, regional, and local agencies as well as by universities and self-help organizations, shall be coordinated by the Areawide Water Quality Board.

7. Septage Disposal

a. Background: The septage that is retained in septic tanks is periodically removed by commercial waste haulers. The septic tank waste haulers are licensed by the State of Michigan under State Act 243 (Public Acts of 1951), and the State relies on the county health departments to regulate the disposal sites.

The most common disposal alternatives utilized for these wastes in Southeast Michigan consist of land application, landfilling, or conveyance to a municipal wastewater treatment facility. Septage must be safely disposed of to protect the public health, groundwater and surface water and is recognized as a potential problem in the region.

b. Policy: The Continuing Planning Agency shall document potential septage disposal problems and investigate disposal alternatives in cooperation with county health departments, wastewater treatment agencies, and local units of government. Wherever feasible, conveyance to a treatment plant shall be encouraged.

Wastewater facilities plans should provide for disposal of septage which is produced within the plan of study area. Existing wastewater treatment plants with available capacity should provide for treatment of septage in conformance with Michigan P.A. 243 of 1951 providing that treatment of septage does not adversely affect the treatment process and no other economically and environmentally feasible septage disposal alternatives are available.

8. Septic System Management Guidelines for Local Governments

a. Background: Local governments influence and guide development through several types of activities. Through planning and policy formulation, the location where development should occur and the manner in which development should take place are identified. Adopted plans and policies are then implemented through the adoption of specific ordinances and regulations. Adopted ordinances and regulations provide the legal basis for reviewing development plans and engineering drawings which are prepared after the development plan has been approved. The review and approval of development plans by local governments can be of central importance for water quality protection.

Permits for the installation fo septic systems are issued by county health departments. Because permit requirements are directed toward the protection of public health and the prevention of nuisance conditions, complete protection for water quality in surface and groundwater is not always provided. Local governments can supplement county permit requirements in the course of their review of development plans. The expertise available in the county health departments can be used by local governments in assuring that wise decisions about locating septic systems are made.

Septic system location questions are interrelated with other aspects of development plans and should be reviewed by local governments at the earliest possible point in the review process. The question of soil suitability for septic systems and the proposed septic system location can be reviewed by local governments with the assistance of the county health departments at this early stage. This review should not duplicate but rather complement the detailed technical review and on-site inspections which are needed for the issuance of septic permits. If the suitability of the soils for septic systems appears questionable, the local government should require evidence of county septic system approval before proceeding with development plan approval.

In addition to development plan reviews, local governments can provide educational materials related to septic system operation and maintenance. Because most residents contact local government offices more frequently than county offices, local officials have special opportunities for providing information. For detailed technical information or on-site inspections, residents can be directed to county health agencies.

As a final step, local governments can ensure that construction on the site is not initiated without necessary septic system permits. As required by the Michigan State Construction Code, local governments may issue building permits only if applicable State, county, and local permits have been obtained. Local governments can also assist county health agencies by requiring health department approval of septic systems when expansions or additions to buildings are proposed.

b. Policy: It is recommended that local governments consider adding or strengthening septic system reviews at the development plan review stage. The following guidelines for development plan reviews and suggested program activities are suggested as appropriate activities for local units of government to supplement the role of the county health departments in septic system management.

Local Government Development Plan Review Guidelines

1) In cooperation with county health departments, compare development plans with soil surveys for the community in order to identify potential septic system problems. If soil conditions appear marginal, do not approve the development plan until evidence of soil suitability for septic system purposes has been provided. Soil surveys should also be used in preparing community plans and zoning ordinances.

2) Require septic system setbacks from streams, lakes, and rivers which exceed county minimum requirements. County standards are related to public health and nuisance factors and do not address all aspects of water quality. Michigan Guidelines for Subsurface Sewage Disposal, Michigan Department of Public Health, require a minimum of 100 feet as a septic system setback from surface bodies of water. Several townships in Southeast Michigan have adopted standards for setbacks which range from 100 to 125 feet. The additional setback allows soils to filter nutrients and pollutants from the wastewater before reaching water bodies.

3) Locate septic systems a suitable distance from water supply wells, taking into account groundwater flows, so that wastewater does not impact wells.

4) Direct stormwater runoff pathways away from the septic system drainfield in order to avoid flooding and related septic system failure.

5) Reserve space on the property for a replacement drainfield.

6) Ensure that pavement, additions, or obstructions are not placed over the septic tank access port and drainfield.

7) Provide an access corridor for septic system maintenance purposes.

8) Plan lot sizes near lakes and rivers to allow for sufficient isolation distances. Cluster developments (or planned unit developments) may provide opportunities for reducing septic system pollution in adjacent rivers and lakes.

9) Ensure that the development proposal will not result in the raising of water levels which in turn can cause surface and subsurface flooding in the area of the septic system.

Local Government Septic System Management Programs

1) Encourage prospective property owners to check soil and groundwater conditions prior to the purchase of property. County health departments should be contacted for advice and evaluations prior to purchase.

2) To provide additional information for site plan reviews, survey homeowners to identify the locations of failing septic systems. Locations of failing systems can be placed on a map for reference purposes.

3) Provide information to citizens about proper operation, use, and maintenance of septic systems. Brochures, workshops, and special displays may be useful approaches. County health agencies can provide assistance in locating materials for distribution.

4) Consider the establishment of septic system maintenance districts within the local jurisdiction. When a maintenance district is established, residents pay a fee, and all septic systems in the area are pumped out on a regular basis.

5) Require landowners to obtain septic system permits before building permits are issued (as required by the State Construction Code).

6) Require landowners to obtain septic system approvals from county health agencies before building additions, major alternations, or changes in use are approved. A change from a single-family home to a higher intensity use, for example, may overload the septic system. Similarly, a system for a temporary lake cottage which becomes a permanent residence is prone to failure.

7) Require access ports in septic systems to facilitate system monitoring and maintenance.

H. SANITARY LANDFILLS

Within certain localized areas of Southeast Michigan, sanitary landfills have caused severe water quality problems. Leachate or runoff from landfills can degrade both surface water bodies and groundwater aquifers. The Michigan Solid Waste Management Act, P.A. 641 of 1978, sets forth a regulatory program and institutional arrangements for solid waste planning, landfill site selection, permitting, monitoring, closure, and other management concerns. The following set of policies is designed to clarify the relationships between solid waste planning, landfill management, and the regional water quality management plan.

1., 2., 3., 4., 5., 6., (deleted through 1981 Plan amendment)

7. Regional Review of County Solid Waste Management Plans

   a. Background: The Michigan Solid Waste Management Act, P.A. 641, of 1978, provides for regional involvement in the preparation of county solid waste management plans. All seven counties in Southeast Michigan have begun the process of preparing these plans. The regional agency will review completed plans for consistency with a number of regional policies and plans including the Water Quality Management Plan.

   b. Policy: The Continuing Planning Agency shall set forth procedures for review of county solid waste management plans. Conflicts related to the Water Quality Management Plan which may arise during the regional review process will be referred to the Areawide Water Quality Board.

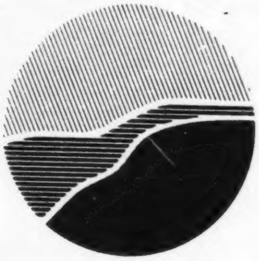
FOOTNOTES: CHAPTER IV

[1] Extensive underground, water bearing, unconsolidated earth materials through which groundwater moves in sufficient quantity to serve as a water supply.

[2] Of equal temperature.

[3] Period of complete mixing.

Additional Letters of Policy Approval



B-217-a

MONTGOMERY COUNTY COUNCIL
ROCKVILLE, MARYLAND

11-5-84
2

October 26,1984

Mr. Jack E. Ravan
Chairman
Federal-State-Local NPS Task Force
Office of Water (WH-556)
U.S. Environmental Protection Agency
Washington, D.C. 20460

Dear Mr. Ravan:

Over the past six months, I have been a Task Force member to help develop approaches to managing nonpoint sources that would strengthen and improve our mutual efforts to address these problems at all levels. Our Association supports policies and practices to improve present and future nonpoint-source management activities.

I believe the National Nonpoint Source Policy developed by our Task Force will help all of us better coordinate our approaches and programs. I join with you in recommending that this policy statement be presented by the Task Force to Mr. Ruckelslhaus in December.

Sincerely yours,

Neal Potter

Neal Potter
Chair for Water,
Energy and Environmental Steering Comm.
National Association of Counties

NP/kp

STELLA B. WERNER COUNCIL OFFICE BUILDING, ROCKVILLE, MARYLAND 20850 — 251-7900 — TTY 279-1083

TEXAS DEPARTMENT OF WATER RESOURCES
1700 N. Congress Avenue
Austin, Texas

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Ralph Roming

October 29, 1984

RECEIVED
11-2-84
8

Mr. Jack E. Ravan
Chairman
Federal-State-Local NPS Task Force
Office of Water (WH-556)
U.S. Environmental Protection Agency
401 M Street, SW
Washington, D.C. 20460

Dear Mr. Ravan:

Over the past several months, I have served as a Task Force member representing the Interstate Conference on Water Problems (ICWP) and the State of Texas to assist in the development of a National Nonpoint Source Policy. I am not in a position at this time to provide you with an unqualified endorsement of the Policy on behalf of ICWP. Although I feel that the policy statement developed by the Task Force is consistent with the ICWP position on nonpoint sources and provides a basis to coordinate approaches and programs to address nonpoint sources at all levels, there may be some member states who having not fully evaluated this proposed policy as it would relate to their programs may want to make additional comments.

Sincerely yours,

Clyde E. Bohmfalk

Clyde E. Bohmfalk
Assistant Director
Construction Grants and Water
Quality Management Division

CEB:ww
cc: Joan Kovalic
Tim Weston

P. O. Box 13087 Capitol Station • Austin, Texas 78711 • Area Code 512/475-3187

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1815 UNIVERSITY AVENUE MADISON, WISCONSIN 53706 608-262-1705

GEOLOGICAL AND NATURAL HISTORY SURVEY
M. E. Ostrom
Director & State Geologist

October 22, 1984

Mr. Jack E. Ravan
Chairman
Federal-State-Local NPS Task Force
Office of Water (WH-556)
U.S. Environmental Protection Agency
Washington, D.C. 20460

Dear Mr. Ravan:

Over the past six months, I have been a Task Force member to help develop approaches to managing nonpoint sources that would strengthen and improve our mutual efforts to address these problems at all levels.

I believe the National Nonpoint Source Policy developed by our Task Force will help all of us better coordinate our approaches and programs. I join with you in recommending that this policy statement be presented by the Task Force to Mr. Ruckelshaus in December.

Sincerely,

M. E. Ostrom

Dr. M. E. Ostrom
Director and State Geologist

MEO:kz

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SOUTH Dakota Department of
Water & Natural Resources
Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501-3181

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October 23, 1984

Mr. Jack E. Ravan
Chairman
Federal-State-Local NPS Task Force
Office of Water Quality (WH-556)
U.S. Environmental Protection Agency
Washington, D.C. 20460

Dear Mr. Ravan:

Over the past six months, Bill Markley has served as my alternate to the Non-Point Source Task Force to help develop approaches to managing non-point sources that will strengthen and improve our mutual efforts to address these problems at all levels. The South Dakota Department of Water and Natural Resources has been working to correct non-point source pollution problems for the past eight years and will continue to do so into the future. We are also currently involved with developing the ASIWPCA non-point source survey which should provide valuable information on the state of non-point source pollution and its control across the country.

I believe the National Non-Point Source Policy developed by our Task Force will help all of us better coordinate our approaches and programs. I join with you in recommending that this policy statement be presented by the Task Force to Mr. Ruckelshaus in December.

Sincerely,

James D. Nelson, Director
Division of Environmental Quality
Office of Water Quality
Phone: (605) 773-3351

BO2209BM.wq

(NACD)

GEORGE B. WOLFF

PUBLIC AFFAIRS CONSULTANT

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717-866-2828

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HARRISBURG, PA 17101
717-232-8754

October 17, 1984

10-25-84
2

Mr. Jack E. Ravan
Chairman
Federal-State-Local NPS Task Force
Office of Water (WH-556)
U. S. Environmental Protection Agency
Washington, D.C. 20460

Dear Mr. Ravan:

Over the past six months, I have been a Task Force member to help develop approaches to managing nonpoint sources that would strengthen and improve our mutual efforts to address these problems at all levels. I have represented the interests of Conservation Districts on this Task Force. In many states, these districts will be heavily involved in implementing nonpoint source control programs.

I believe the National Nonpoint Source Policy developed by our Task Force will help all of us better coordinate our approaches and programs. I join with you in recommending that this policy statement be presented by the Task Force to Mr. Rickelhaus in December.

Sincerely yours,

George B. Wolff

CITY AND COUNTY OF DENVER

FEDERICO PEÑA
Mayor

DEPARTMENT OF PUBLIC WORKS

WASTEWATER MANAGEMENT DIV.
3840-G YORK STREET
DENVER, COLORADO 80205

December 11, 1984

Mr. Jack Ravan, Chairman
Federal-State-Local NPS Task Force
Office of Water (WH-556)
U. S. Environmental Protection Agency
Washington, D.C. 20460

Dear Mr. Ravan:

In my November letter to you relative to my support for the National NPS Policy, I indicated that I was committed to present the policy to the National League of Cities (NLC) for their review and appropriate action at the earliest possible time. Further, I was confident that their position on this matter would be available for the December meeting. In this light, I had copies of the policy carried to the national meeting of NLC in Indianapolis which convened on November 23, 1984.

I have now been advised that it was not possible to get the policy into the hands of the steering committee for formal action by this organization during the above-referenced meeting, and the next meeting, at which time such consideration can be given, will not occur until March 1985. However, subsequent to the Indianapolis meeting, I have had discussions with NLC staff who have verbally indicated no apparent conflicts between the policy as written and the adopted policies of NLC. This is the extent of support for the policy which can be secured from NLC at this time.

I regret that timing constraints prohibited more formal actions by NLC on this policy, but I feel safe in stating that their failure to determine any conflicts with current policies indicates we have taken steps in the right direction.

In Carl Myers letter dated December 6, 1984, a new, proposed USDA NPS Glossary was included. I have reviewed this proposal and would like to recommend that the definitions contained within the NPS Policy dated November 20, 1984 be retained. It appears that too much of the intent included within the original definitions has been deleted. I agree that there are some advantages to brevity, but in some instances of the proposed definitions, we have "thrown the baby out with the bath water." Again, I urge that we retain the original glossary definitions.

I look forward to the meeting with Mr. Ruckelshaus on December 12, 1984 and his positive reaction to the efforts of this task force over the past nine months.

Very truly yours,

George C. Rupert

George C. Rupert, P.E.
Deputy Manager of Public Works

GCR:clj

NATIONAL
ASSOCIATION
of
COUNTIES

440 First St. NW, Washington, DC 20001
202/393-6226

December 12, 1984

Mr. William D. Ruckelshaus
Administrator
Environmental Protection Agency
401 M Street, S. W.
Washington, D. C. 20460

Dear Mr. Ruckelshaus:

I would like to commend the work of the Non Point Source Task Force and its contribution to the formulation of a national policy. I also want to acknowledge the active and thoughtful participation of our representative to the task force, Councilman Neal Potter of Montgomery County, Maryland and Chairman of our Water Policy Subcommittee.

The National Association of Counties (NACo) strongly supports the national program for dealing with non point sources of water pollution. NACo will support federal, state, and local government programs which will achieve the objectives of the national program.

The interest of counties is strong because so much of the work of local governments is directed towards protecting the environment. Programs for adequate water supply and sewage disposal are strongly impacted by non point source problems, as are local controls over land use policies, economic development, highway, and storm projects as well. Moreover, in many areas, the current and prospective expenditures for tertiary treatment of sewage are reaching the point of diminishing returns. Work on non point source problems would appear to be more productive in the protection of water resources.

For these reasons, NACo, through its Energy and Environment Steering Committee and various county wide conferences, will monitor the progress of non point source programs and seek their successful completion.

We look forward to a close working relationship with your agency as we begin to come to grips with the non point source problem.

Sincerely,

Matthew B. Coffey
Executive Director

MBC:ew

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150 Years of Service to People

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Mayor of Fresno
Executive Director:
JOHN J. GUNTHER

November 28, 1984

RECEIVED
12-5-84
N

The Honorable Jack E. Ravan
Assistant Administrator for
Water
Environmental Protection Agency
Room E1035
401 M Street, SW
Washington, DC 20460

Dear Mr. Ravan:

The U.S. Conference of Mayors has noted with great interest recent reports that EPA Administrator Ruckelshaus will soon present the recommendations of the intergovernmental task force on non-point source pollution to the Cabinet Council on Natural Resources. The Conference strongly supports a national non-point policy and commends EPA for its leadership in attempting this long overdue initiative.

The Conference adopted policy in June calling for "the creation of a national effort to combat non-point pollution" as part of the reauthorization of the Clean Water Act". As the attached policy statement indicates, the Mayors believe that an effective non-point program should require mandatory planning and implementation by the states to ensure that activities outside the urban areas cease the flow of non-point pollution into city waters.

In addition to this policy resolution, the Conference has also sponsored and participated in two important workshops in the last year focusing on this problem and means to remedy it. Mayor Henry Maier of Milwaukee has been instrumental in bringing the importance of this issue before city officials and in developing the Conference non-point policy.

The Conference looks forward to working with EPA in this area and urges that every consideration be given to ensuring that the policy is a strong one and that funds are adequately available to provide for its proper implementation at the federal, state and local levels.

Sincerely,

J. Thomas Cochran

J. Thomas Cochran
Deputy Executive Director

Enclosure

orth Central Texas Council of Governments

P. O. Drawer COG Arlington, Texas 76005—5888

November 20, 1984

Mr. Carl Myers
National Nonpoint Source
Water Quality Section
US Environmental Protection Agency
401 M Street S.W., Bldg WSM, Rm E811C
Washington, D.C. 20640

I wish to inform you that our agency supports the National Nonpoint Source Policy (NPS) recommended by the EPA Task Force. The proposed NPS policy represents a significant first step in the process to evaluate and manage the effects of NPS runoff into the nation's waters. The development of subsequent strategies that effectively and efficiently achieve the goals of restoring and maintaining the nation's water quality remain the next significant steps to be undertaken.

We feel the proposed policy will enhance the role that regional agencies can provide in addressing the issues associated with management of nonpoint source runoff. We are particularly pleased with the definition of "partnership" contained in the NPS policy. The policy's call for a working partnership among the separate levels of governmental and non-governmental organizations to develop and implement NPS programs is a necessary recognition that effective NPS management requires participation at all levels.

Representing a region with a large metropolitan area, we are pleased to see that urban nonpoint sources have not been neglected. Urban nonpoint sources will continue to gain in relative significance as land development continues and as greater control is exercised over traditional point source discharges.

Sincerely,

John Promise
Director of Environmental Resources

ME:me

Centerpoint Two 616 Six Flags Drive Dallas/Fort Worth Metro 817/461-3300